

**County Borough**



**of Blackburn.**

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# **Annual Report**

upon the

## **Health of Blackburn**

**For the Year 1905,**

by

**Alfred Greenwood, M.D.,**

**D.P.H., etc.,**

Medical Officer of Health, Medical Superintendent to the Fever and  
Smallpox Hospitals, and Medical Officer to the Education  
Committee.

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# Corporation of Blackburn.



## Members of the Health Committee.



THE MAYOR (F. T. THOMAS, ESQ)

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J. SHORROCK	HINDLE
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DIXON	HIGHTON
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The Local Government Board Tables and the Classification of all the Deaths in the Borough are appended to this Report.

## Statistical Summary for 1905.



Area of Borough .....	7,431 acres
Population at Census, 1901 .....	127,626
Estimated Population to middle of 1905 ..	132,742
Average Number of Persons per acre ...	17·8
Birth-Rate per 1,000 living .....	24·0
Death-Rate ,, .....	16·4
,, from Zymotic Diseases .....	2·0
Infant Mortality per 1,000 births ...	146·2
Total Occupied Houses at 1901 Census .....	27,756
Plans of New Buildings Passed . . .	205
Rateable Value... ..	£530,497



PUBLIC HEALTH OFFICE,

BLACKBURN,

1st January, 1906.

To the Chairman and Members of the Health Committee  
of the County Borough of Blackburn.

Mr. Chairman and Gentlemen.

I have the honour to submit to you, in accordance with the regulations of the Local Government Board, my fourth Annual Report on the Health and Sanitary condition of the Borough for the year ending December 31st. 1905.

The Report contains the Birth and Death Statistics, the measures adopted for the prevention of disease, and the work carried out by this department.

I thank you for the encouragement and support which you have always given to me.

I am, Mr. Chairman and Gentlemen

Your obedient Servant,

ALFRED GREENWOOD.

# REPORT

OF THE

## Medical Officer of Health

### For 1905.

---

Blackburn is situated chiefly in the valley of the Blakewater, and to a much smaller extent in the valley of the Darwen.

The following are the heights above sea-level in various parts of the town:—

Town Hall .....	377 feet.
Revidge .....	715 „
Witton .....	318 „
Intack .....	483 „
Infirmery .....	402 „
Station .....	360 „
Fever Hospital .....	560 „

The rivers join on the western boundary of the borough. On the north side of the Blakewater the land rises after the first few hundred yards rapidly from a height of about 300 to a height of 700 feet. To the south and west of the River Darwen there is also a fairly rapid rise from a height of 300 to 600 feet. The land between the two rivers has at first no great inclination, but towards the south-east it rises rapidly to a height of 650 feet. On the north side the gradients are as high in one or two instances as 1 in 7, and 1 in 10 or 12 are not uncommon. On the south side the steepest slope is 1 in 10. The fall of the valley of the Blakewater is 86 feet in  $2\frac{1}{4}$  miles or 1 in 138. With few exceptions the falls in the town may be considered good. The deep strata underlying the town are principally the Lower Coal

Measures or Gannister Beds. There is a narrow strip of Alluvium in the valley of the Darwen, and Millstone Grit (rock and shale) comes to the surface on the northern side of the borough over a considerable area, and to a very small extent on the southern side. The Gannister Beds underlie nearly the whole of the town proper, and those parts which have Millstone Grit for their deep strata are chiefly agricultural land. With one or two small exceptions the deep strata are covered with drift beds. Throughout the greater part of the borough the drift beds are principally composed of clay. There is, however, a considerable piece of land in the centre of the town covered with a good depth of pure sand. I cannot map it out correctly, but it includes the land on which the Town Hall, the Market House, the Parish Church, and the Railway Station are built. It extends northwards as far as Regent Street and Richmond Terrace. To the west it extends as a narrow elongated strip as far as Witton Stocks.

This district can be understood better by referring to the Enumeration District Map.\* The districts which have a sandy subsoil are Nos. 5, 6, 41, 42 in the Southern Division, Nos. 19, 32, 33, 34 in the Northern Division, and No. 2 in the Witton and Livesey Division; and besides these Nos. 43, 44, 45 in the Southern Division, Nos. 28, 31 in the Northern Division, and Nos. 3, 4, and 6 in the Witton and Livesey Division, are partly sand and partly clay. The sand varies considerably in its purity in different localities. In the neighbourhood of Church Street, Mincing Lane, Weir Street, Clayton Street, and King Street it is of a clean reddish colour, and reaches, in some instances, to a depth of 15 to 20 feet, or possibly more. In the neighbourhood of Galligreaves Street and between Galligreaves Street and Whalley Banks, the sand was originally overlaid with a varying thickness of clay, but this was mostly removed before the land was built upon. To the south of Bank Top and Redlam the subsoil is composed mostly of a mixture of sand, gravel, and

\*This Map has been remodelled in accordance with the 1901 Census results including the added area—and will be found at the end of the Report.

clay, whilst to the north of Bank Top and Redlam, as far as the River Blakewater, the subsoil is much purer sand. Over the remainder of the town the drift beds are mostly clay, or clay and gravel.

Millstone Grit comes to the surface along Revidge Road, and to some extent on both sides of the road, but principally to the south. The deep strata are of interest chiefly from the water which is derived from them. The superficial strata or drift beds which form the subsoil are of great importance. Upon its character the dryness of the locality depends to a great extent, and frequently the dryness of the houses built upon it. It has also a very distinct bearing upon all diseases, which are due to soil pollution, and also upon those diseases which are due to damp and cold.

## POPULATION.

The statistics contained in this Report are based upon the population estimated to the middle of 1905, viz., 132,742.

The desirability of the accuracy of this figure is obvious, as upon it depend the various death-rates, etc.

Such accuracy will diminish yearly until the next Census in 1911, and as has been pointed out frequently, the difficulty would be met, to a great extent, by the institution of a Quinquennial Census. This would involve a Census in the present year, 1906, and would obviate much inaccuracy of statistics from now until 1911. It would also facilitate greatly any local or general comparisons.

The increase in the population of Blackburn from 1841 to 1901 may be seen in Table III.

TABLE I.

YEAR.	Population at Census.	BIRTHS.	DEATHS.	Natural Increase in 10 year periods, also expressed as percentage of population.	Excess of Immigration over Emigration in 10 year periods, also expressed as a percentage of population.	Total Increase in 10 year periods, also expressed as a percentage of the population.
1841	36,629		955			
1842			945			
1843			1220			
1844			1143			
1845			1124			
1846			1488			
1847			1445			
1848			1214			
1849			1125			
1850			1315			
1851	46,536	2035	1264			
1852		2000	1697			
1853		2130	1758			
1854		2241	1320			
1855		2181	1781	6859	9731	16590
1856		2324	1330	14.7 %	20.9 %	35.6 %
1857		2372	1824			
1858		2277	1847			
1859		2479	1547			
1860		2675	1487			
1861	63,126	2773	1774			
1862		2754	1815			
1863		2568	1440			
1864		2730	1746			
1865		2737	1881	9211	4002	13213
1866		2775	2146	14.5 %	6.3 %	20.9 %
1867		2915	1867			
1868		3155	1961			
1869		3007	2337			
1870		3082	2318			
1871	76,339	3166	2033			

TABLE I—*Continued.*

YEAR.	Population at Census.	BIRTHS.	DEATHS.	Natural Increase in 10 year periods, also expressed as percentage of population.	Excess of Immigration over Emigration in 10 year periods, also expressed as a percentage of population.	Total Increase in 10 year periods, also expressed as a percent- age of the population.
1872		3463	2050			
1873		3227	2462			
1874		3305	2432			
1875		3412	2200			
1876		3425	2435	10820	16855	27675*
1877		3518	2134	14'1 %	less	less
1878		3456	2742		12056 =	12056 =
1879		3418	2174		4799 or	15619 or
1880		3386	2294		6'2 %	20'4 %
1881	104,014	3919	2431			
1882		3918	2665			
1883		4305	2660			
1884		4132	2663			
1885		4000	2452			
1886		4004	2863	13186	2864	16050
1887		4164	2974	12'6 %	2'7 %	15'4 %
1888		4111	2865			
1889		4150	3077			
1890		4015	2882			
1891	120,064	4085	3116			
1892		3883	2551			
1893		3822	2793			
1894		3621	2173			
1895		3899	3084	10853	-3291	7562
1896		3552	2269	9'04 %	-2'7 %	6'3 %
1897		3629	2529			
1898		3662	2439			
1899		3643	2607			
1900		3438	2820			
1901	127,626	3386	2495			
1902		3357	2247			
1903		3304	2069			
1904		3100	2274			
1905		3193	2183			

\* The population of the added portions of Witton, Livesey, Lower Darwen and Little Harwood are here deducted.

Between 1871 and 1881 the following additions were made to the Borough. In July, 1877: Livesey (part of) 4449; Witton (part of) 4180; Little Harwood (part of) 33. In July, 1879, Lower Darwen (part of) 2712; Little Harwood (part of) 682.

In November, 1901, parts of Witton and Livesey were added to the Borough.



**TABLE II.**

Age Periods.	Population estimated to the middle of 1905.	
	M	F
Under 5	6453	6408
5 — 15	12709	13756
15 — 25	12544	15338
25 — 35	9756	12293
35 — 45	8411	10182
45 — 55	5884	6789
55 — 65	3411	4269
65 — 75	1478	2082
75 and upwards	385	594
Total.....	61031	71711

**MARRIAGES.**

The number of Marriages during the year was 1,274, compared with 1,172 in 1904, and 1,058 in 1903.

Of these, 713 took place in the Established Churches, and 560 in Nonconformist Places of Worship and at the Register Office.

There was also one marriage in the Jewish Synagogue.

The annual rate of persons married per 1,000 of the population was 19.1.

The marriage rates for 1902, 1903, and 1904 were 17.3, 16.1, and 17.7 per 1,000 respectively.

Therefore the increase in this rate has been 1.4 per 1,000 in twelve months.

The marriage-rate appears to be higher when trade is prosperous than in times of depression.

### BIRTHS.

The number of Births registered during the year was 3,193, of which 1,626 were males, and 1,567 females, equal to a birth-rate of 24.0 per 1,000.

The birth-rate for 1904 was 23.5 per 1,000.

Of the 3,193 Births, 123 were illegitimate, equal to a percentage of 3.8. Similar percentages for the years 1902 and 1903 were 3.9 and 4.3 respectively.

The birth-rates in 1905 for England and Wales were as follows:—

England and Wales .....	27.2	per 1,000 living.
76 Great Towns .....	28.2	„
141 Smaller Towns .....	26.9	„
England and Wales (less the 217 towns) .....	26.3	„

As has been pointed out frequently, the declining birth-rate is a matter of serious import to the national welfare.

It is a significant fact that the diminished birth-rate in England and other countries has accompanied the tendency of modern times towards increased social comfort.

As I have stated previously, it is not easy to suggest a remedy.

### STILL-BORN CHILDREN.

The total number of still-born children brought to the Cemetery for interment during 1905 was 183, compared with 201 during 1904.



The following shows the number for each month:—

Jan.	Feb.	March	April	May	June
15	13	24	13	14	19
July	Aug.	Sept.	Oct.	Nov.	Dec.
14	16	18	8	14	15

## DEATHS.

In the following Tables (III. to XII.) will be found classifications of the Deaths in Blackburn during 1905, according to disease, locality, period, and also comparisons with other towns.

During 1905, there were 2,183 Deaths, of which 1,077 were males, and 1,106 females.

Adjustment has been made for those persons who belonged to outside districts and who died in Blackburn, and for Blackburn residents who died in outside districts.

The number of Deaths of non-residents who died in institutions in this Borough was 85. These came from the following districts, *viz.*, Darwen, 33; Oswaldtwistle, 9; Great Harwood, 8; Church, 7; Accrington, 6; Rishton, 3; Clayton-le-Moors, 2; Haslingden, 2; Cherry Tree (rural), 2; Hoddlesden, 2; and Withnell, Chatburn, Skipton, Gisburn, Billington, Clitheroe, Whalley, Burnley, Preston, Mellor Brook, and Samlesbury, 1 each.

The number of Deaths amongst Blackburn residents occurring in Districts outside was 37. These occurred at the Royal Infirmary, Liverpool; Hospital for Women, Liverpool; Royal Infirmary, Manchester; Culcheth Hall, Manchester; St. Mary's Home, Manchester; Victoria Hospital, Blackpool; private residences Blackpool, Oldham, Colne, Clitheroe, and Darwen; Lancaster, Whittingham, Winwick, and Prestwich Asylums.

Notifications of Deaths in Blackburn occurring amongst residents of other districts are sent each quarter to the Medical Officers of Health of those districts. This is preferable to the

method of sending the complete annual return in the early part of the following year, as the accuracy of statistics is more likely to be ensured in this way.

The resulting death-rate is equal to 16.4 per 1,000. This is 0.8 per 1,000 less than the death-rate for 1904, and represents a highly satisfactory state of affairs. Indeed, there has only been one lower annual death-rate in the sanitary history of Blackburn, namely, the year 1903, when the death-rate reached the very low figure of 15.7 per 1,000.

Roughly speaking, the death-rate of Blackburn during the last 60 years has diminished nearly 50 per cent. This is a great tribute to the successful advances of modern sanitation.

The following were the death-rates for England and Wales during 1905:—

England and Wales .....	15.2	per 1,000 living.
76 Great Towns .....	15.7	„
141 Smaller Towns .....	14.4	„
England and Wales (less the 217 towns) .....	14.9	„

The increase in the Deaths for 1905, as compared with 1904, was in the following Diseases:—Scarlet Fever, Epidemic Influenza, Diphtheria, Puerperal Fever, Tuberculosis of Meninges, Phthisis, Cancer, Meningitis, Nephritis, Accidents and Diseases of Parturition, and Deaths from Ill-Defined Causes.

The increase was especially marked in Scarlet Fever, Diphtheria, Phthisis, and Deaths from Ill-defined Causes.

There was a decrease in the Deaths from Measles, Whooping Cough, Enteric Fever, Diarrhœa and Epidemic Enteritis combined, Other Tuberculous Diseases, Premature Birth, Old Age, Organic Diseases of the Heart, Bronchitis, and Pneumonia.

The decrease was especially marked in Measles, Whooping Cough, Diarrhœa and Epidemic Enteritis combined, Heart Diseases, and Pneumonia.

The numbers of Deaths from Erysipelas, Developmental Diseases, Inflammation and Softening of the Brain, Diseases of Stomach, Obstruction of Intestines, Cirrhosis of Liver, were practically the same in 1905 as in 1904.

The largest numbers of Deaths at all ages during 1905 were from Bronchitis, Pneumonia, Heart Diseases, Phthisis, and Old Age, which claimed 214, 190, 155, 142, and 139 victims respectively.

A similar state of affairs has now prevailed for several years.

On referring to Table IX, it will be seen that during 1905 the *lowest* death-rates occurred in St. Silas's, St. John's, and St. Thomas's Wards, with rates of 11.6, 13.6, and 13.7 per 1,000 respectively.

The *highest* ward death-rates occurred in St. Peter's and St. Mary's Wards, namely, 22.8 and 22.2 per 1,000 respectively.

Again, as in previous years, Table IX, also shows the striking difference in the death-rates from Phthisis in the various wards.

The wards with a Phthisis death-rate under one were:—St. Stephen's, Trinity, St. John's, St. Silas's, St. Peter's, St. Thomas's, and St. Andrew's.

Those with a Phthisis death-rate above one were:—St. Michael's, St. Paul's, St. Mary's, St. Matthew's, Park, St. Luke's, and St. Mark's.

The lowest Phthisis death-rate occurred in St. Silas's Ward (0.4), and the highest in St. Mary's Ward (2.4).

Table IV. shows that the lowest death-rates occurred between the ages of 15 and 45 years, and that the death-rates amongst males and females were the greatest at the extremes of life.

It also shows that the death-rates from 45 years upwards were greater amongst males than females.

From Table V. it will be seen that the highest monthly death-rates occurred during January, February, March, October, November, and December, and were due chiefly to affections of the lungs.

The lowest monthly death-rates occurred during the summer months.

Also 54 out of 93 deaths from Diarrhœa occurred during August and September, and, although this is a large number when compared with the other months of 1905, it is a small number when compared with previous years.

The weekly death-rates, as shown in Table VIII., were highest in the weeks ending January 7th and November 4th, when they were 22.3 and 21.5 per 1,000 respectively.

The lowest weekly death-rates occurred in the weeks ending June 10th and September 30th, namely, 9.0 and 9.7 per 1,000 respectively.

There was again no marked increase in the summer death-rate on account of Epidemic Diarrhœa.

TABLE III.

Year.	Popu- lation in Census Years.	Popula- tion esti- mated to middle of year.	Birth Rate.	Death Rate.	Average Death rate in 10 year periods.	Year.	Popula- tion in Census Years.	Popula- tion esti- mated to middle of year.	Birth Rate.	Death Rate.	Average death rate in 10 year periods.
1841	36,629	36,849		29.9	29.02	1871	76,339	76,695	41.1	26.5	26.5
1842	...	37,742		25.0		1872	...	78,136	44.3	26.2	
1843	...	38,656		31.5		1873	...	79,604	40.5	30.9	
1844	...	39,593		28.8		1874	...	81,099	40.7	29.9	
1845	...	40,552		27.7		1875	...	82,624	41.2	26.6	
1846	...	41,534		35.7		1876	...	84,716	40.4	28.7	
1847	...	42,541		33.9		*1877	...	90,089	39.0	23.6	
1848	...	43,571		27.8		1878	...	96,031	35.9	28.5	
1849	...	44,627		25.2		†1879	...	98,869	35.5	21.9	
1850	...	45,708		28.7		1880	...	102,736	32.9	22.2	
1851	46,536	46,892	43.3	27.0	29.47	1881	104,014	104,388	37.5	22.4	23.83
1852	...	48,344	41.3	35.1		1882	...	105,897	36.9	24.3	
1853	...	49,841	42.7	35.2		1883	...	107,427	40.0	23.9	
1854	...	51,384	43.6	25.6		1884	...	108,980	37.9	23.6	
1855	...	52,974	41.7	33.6		1885	...	110,555	36.1	21.3	
1856	...	54,614	42.5	24.3		1886	...	112,153	35.6	24.7	
1857	...	56,306	42.1	32.2		1887	...	113,774	36.5	25.3	
1858	...	58,049	39.2	31.8		1888	...	115,418	35.6	24.0	
1859	...	59,846	41.4	25.8		1889	...	117,086	35.5	25.4	
1860	...	61,699	43.3	24.1		1890	...	118,780	33.8	23.4	
1861	63,126	63,434	43.7	27.9	27.83	1891	120,064	120,245	33.9	25.9	21.32
1862	...	64,681	42.5	28.1		1892	...	120,972	32.0	21.0	
1863	...	65,953	38.9	21.8		1893	...	121,704	31.4	22.9	
1864	...	67,249	40.5	25.9		1894	...	122,440	29.5	17.7	
1865	...	68,572	39.9	27.4		1895	...	123,181	31.6	25.0	
1866	...	69,920	39.6	30.7		1896	...	123,926	28.6	18.3	
1867	...	71,294	40.8	27.5		1897	...	124,675	29.1	20.2	
1868	...	72,696	43.3	26.9		1898	...	125,430	29.1	19.4	
1869	...	74,125	40.5	31.5		1899	...	126,185	28.8	20.6	
1870	...	75,583	40.7	30.6		1900	...	126,951	27.0	22.2	
						1901	127,626	127,823	26.5	19.5	
						1902	...	130,239	25.7	17.2	
						1903	...	131,079	25.2	15.7	
						1904	...	131,908	23.5	17.2	
						1905	...	132,742	24.0	16.4	

\* Part of Witton, Livesey, and Little Harwood—population 8,662.  
Half of this has been added to 1877 population

† Part of Little Harwood and Lower Darwen—population 2,394.  
Half of this has been added to year 1879 population.

‡ Part of Witton and Livesey added in November, 1901.

TABLE IV.  
1905.

AGE PERIODS	MALES		FEMALES.	
	Deaths.	Death Rate	Deaths.	Death Rate
0-5	370	57.3	329	51.3
5-15	57	4.4	70	5.0
15-25	48	3.8	41	2.6
25-35	68	6.9	76	6.1
35-45	66	7.8	85	8.3
45-55	122	20.7	109	16.0
55-65	142	41.6	149	34.9
65-75	140	94.6	153	73.4
75 and upwards.	64	166.2	94	158.2



TABLE V.

Monthly Births and Deaths for 1905.

Month.	Birth Rate.	Death Rate.	Measles.	Scarlet Fever.	Whooping Cough.	Croup.	Typhoid Fever.	Diphtheria.	Diarrhoea.	Lung Diseases.	Tuberculosis.	All Other Diseases.
January ..	24.3	18.6	1	6	1	...	1	2	1	60	12	126
February ...	21.7	18.6	2	5	...	...	...	1	2	42	28	110
March ....	26.3	17.9	...	3	3	...	2	3	1	44	18	129
April ... ..	21.0	16.9	...	6	1	...	2	3	4	31	19	119
May .....	28.9	15.9	1	8	3	...	3	2	4	27	21	111
June ... ..	27.2	13.3	...	3	...	...	...	1	5	31	16	90
July ... ..	25.8	11.7	...	6	2	...	1	3	6	7	14	93
August .....	25.2	15.7	2	11	...	...	...	2	28	16	25	93
September	21.2	13.2	1	4	...	...	1	4	26	24	17	68
October .....	23.4	17.0	4	14	1	...	1	3	12	27	22	108
November .	21.0	17.8	14	3	...	...	1	4	3	45	9	116
December...	21.8	17.0	17	7	...	...	3	5	1	54	23	82

TABLE VI. -(SHORTER SCHEDULE B)

CAUSE OF DEATH.	0-1		1-5		5-15		15-25		25-65		65 & up		M.	F.	To- TAL.
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.			
Smallpox .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Measles .....	6	3	15	15	2	1	...	...	...	...	...	...	23	19	42
Scarlet Fever .....	1	4	30	16	13	9	2	...	...	1	...	...	46	30	76
Typhus Fever .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Epidemic Influenza .....	...	...	...	1	1	...	2	1	2	9	1	3	6	14	20
Whooping Cough .....	4	2	1	4	...	...	...	...	...	...	...	...	5	6	11
Diphtheria & Membranous Croup .....	1	1	8	7	5	10	...	...	...	1	...	...	14	19	33
Croup .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Enteric Fever .....	...	...	...	...	2	1	1	...	7	4	...	...	10	5	15
Other continued Fevers .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Cholera .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Diarrhœa .....	20	28	3	1	1	1	...	...	2	1	1	1	27	32	59
Plague .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Epidemic or Zymotic Enteritis .....	18	10	2	2	...	1	...	...	...	...	1	...	21	13	34
Enteritis .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Erysipelas .....	...	...	...	...	1	...	...	...	1	...	...	...	1	1	2
Puerperal Fever .....	...	...	...	...	...	...	1	...	9	...	...	...	...	10	10
Other Septic Diseases .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Intermittent and Malarial Cachexia .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Tuberculosis of Meninges...	5	4	5	8	5	6	...	...	...	...	...	...	15	18	33
Phthisis .....	...	3	2	...	3	10	11	11	69	32	...	1	85	57	142
Other Tuberculous Diseases	13	3	9	3	2	2	1	1	8	7	2	...	35	16	51
Malignant Disease (Cancer)	...	...	...	...	...	...	...	...	27	48	19	19	46	67	113
Premature Birth .....	31	36	...	...	...	...	...	...	...	...	...	...	31	36	67
Developmental Diseases ...	10	9	1	...	...	2	...	...	...	...	...	...	11	11	22
Old Age .....	...	...	...	...	...	...	...	...	3	7	57	72	60	79	139
Meningitis .....	4	2	...	...	...	1	2	2	...	1	...	1	6	7	13
Inflammation and Softening of Brain .....	...	...	...	...	...	...	...	...	5	2	4	4	9	6	15
Organic Diseases of Heart.	...	1	1	...	...	4	2	5	32	68	14	28	49	106	155
Veneral Diseases .....	...	4	...	...	...	...	...	...	3	2	...	...	3	6	9
Bronchitis .....	21	20	6	7	...	2	...	1	36	42	40	39	103	111	214
Pneumonia .....	26	16	24	17	4	3	8	1	46	22	8	15	116	74	190
Pleurisy .....	...	...	...	...	...	...	...	...	...	4	...	1	...	5	5
Other Respiratory Diseases .....	...	...	...	...	...	...	...	...	1	1	...	1	1	2	3
Diseases of Stomach .....	1	3	...	...	1	...	...	...	3	8	...	...	5	11	16
Obstruction of Intestines ...	...	...	...	...	...	...	2	1	4	7	3	4	9	12	21
Cirrhosis of Liver (Alcoholism) .....	...	...	...	...	...	...	...	1	10	6	3	...	13	7	20
Nephritis & Bright's Disease	2	2	2	...	1	2	5	...	23	15	6	6	39	25	64
Tumour and other Affections of female genital organs	...	1	...	...	...	...	...	...	...	6	...	...	...	7	7
Accidents and Diseases of Parturition .....	...	1	...	...	...	...	...	1	...	19	...	...	...	21	21
Deaths by Suicide .....	...	...	...	...	...	...	4	3	8	2	1	...	13	5	18
Homicide .....	...	...	...	...	...	...	...	...	1	...	...	...	1	...	1
Deaths from Ill-defined Causes .....	15	13	3	5	2	4	2	2	29	16	11	11	62	51	113
Deaths by Accidents or Negligence .....	1	1	2	5	3	1	3	...	13	7	4	1	26	15	41
All other Causes .....	64	57	13	14	11	10	3	10	66	71	29	40	186	202	388
TOTAL .....	243	224	127	105	57	70	48	41	308	419	204	247	1077	1106	2183



TABLE VII.

DISEASE.	1899.	1900.	1901.	1902.	1903.	1904.	1905.	
	Total De'ths	Total De'ths	Total De'ths	Total De'ths	Total De'ths	Total De'ths	Total De'ths	Death Rate,
Smallpox .....	...	2	...	2	3	...	...	0·00
Measles .....	40	76	94	77	53	60	42	0·31
Scarlet Fever .....	24	83	58	31	13	13	76	0·57
Whooping Cough .....	52	53	22	23	14	96	11	0·08
Diphtheria .....	74	91	62	23	26	11	33	0·24
Croup .....	19	13	8	5	2	...	...	0·00
Enteric Fever .....	40	30	17	23	15	21	15	0·11
Influenza .....	30	82	20	27	27	17	20	0·15
General Tuberculosis .....	4	6	22	18	8	10	17	0·12
Phthisis .....	152	148	150	163	122	125	142	1·06
Abdominal Tuberculosis...	20	47	35	24	28	40	27	0·20
Tubercular Meningitis and Acute Hydrocephalus...	8	14	23	51	47	28	33	0·24
Other forms of Tuberculosis	33	30	12	6	8	8	7	0·05
Diarrhœa ..	110	169	133	70	100	125	93	0·70
Enteritis .....	81	15	44	8	2	3	...	0·00
Atrophy, Debility, Marasmus.....	78	75	52	74	52	67	56	0·42
Rheumatism, R'matic Fev'r	18	24	17	13	16	19	17	0·12
Cancer .....	80	98	91	91	92	107	113	0·85
Premature Birth .....	85	95	68	70	83	80	67	0·50
Old age.....	124	96	99	108	127	153	139	1·04
Convulsions .....	61	65	51	28	36	32	34	0·25
Inflammation of the Brain or Membranes .....	52	51	46	10	8	5	13	0·09
Apoplexy.....	90	87	67	93	76	80	83	0·62
Other Nervous Diseases	47	61	65	71	63	74	73	0·55
Diseases of Heart and Blood Vessels.....	178	168	160	167	190	194	155	1·16
Bronchitis .....	302	328	250	233	211	240	214	1·61
Pneumonia .....	254	280	232	221	229	249	190	1·43
Cirrhosis of Liver .....	18	17	26	24	14	13	14	0·10
Acute Nephritis, Bright's Disease.....	41	53	57	52	48	60	64	0·48
Burns and Scalds.....	19	16	12	13	7	10	12	0·09
*Causes unspecified .....	123	125	109	123	76	50	113	0·85
All Diseases .....	...	...	...	...	...	...	...	16·44

\* Including all cases not certified by a medical man, and all cases where an inquest was held but no definite cause of death shown.

TABLE VIII.

Weekly Births and Deaths for 1905.

1905.	Deaths from all causes.	Death Rate per 1,000 per annum.	Deaths from Seven Principal Zymotics.	Death Rate per 1,000 for Zymotics.	Births.	Birth Rate per 1,000 per annum.
Week ending Jan. 7	57	22.3	2	0.7	67	26.2
" " 14	46	18.0	2	0.7	53	20.9
" " 21	52	20.3	3	1.1	68	26.6
" " 28	41	16.0	1	0.3	68	26.6
" Feb. 4	46	18.0	5	1.9	58	22.7
" " 11	53	20.7	3	1.1	64	25.0
" " 18	42	16.4	2	0.7	58	22.7
" " 25	48	18.8	1	0.3	45	17.6
" March 4	39	15.2	3	1.1	70	27.4
" " 11	52	20.3	2	0.7	70	27.4
" " 18	45	17.6	4	1.5	56	21.9
" " 25	47	18.4	3	1.1	70	27.4
" April 1	46	18.0	2	0.7	50	19.5
" " 8	33	12.9	2	0.7	53	20.7
" " 15	42	16.4	6	2.3	57	22.3
" " 22	48	18.8	3	1.1	67	26.2
" " 29	49	19.1	3	1.1	49	19.1
" May 6	38	14.8	3	1.1	69	27.0
" " 13	49	19.1	5	1.9	65	25.4
" " 20	42	16.4	3	1.1	83	32.5
" " 27	31	12.1	6	2.3	57	22.3
" June 3	45	17.6	3	1.1	83	32.5
" " 10	23	9.0	1	0.3	71	27.8
" " 17	28	10.9	0	0.0	62	24.2
" " 24	39	15.2	4	1.5	63	24.6
" July 1	45	17.6	3	1.1	73	28.5
" " 8	27	10.5	2	0.7	66	25.8
" " 15	38	14.8	4	1.5	67	26.2
" " 22	26	10.1	3	1.1	75	29.3
" " 29	33	12.9	8	3.1	62	24.2
" August 5	32	12.5	6	2.3	60	23.5
" " 12	32	12.5	7	2.7	69	27.0
" " 19	35	13.7	7	2.7	41	16.0
" " 26	39	15.2	9	3.5	89	34.8
" Sept. 2	49	19.1	13	5.0	60	23.5
" " 9	44	17.2	14	5.4	54	21.1
" " 16	32	12.5	7	2.7	55	21.5
" " 23	35	13.7	8	3.1	60	23.5
" " 30	25	9.7	3	1.1	45	17.6
" Oct. 7	46	18.0	10	3.9	47	18.4
" " 14	35	13.7	8	3.1	52	20.3
" " 21	38	14.8	6	2.3	70	27.4
" " 28	49	19.1	4	1.5	67	26.2
" Nov. 4	55	21.5	7	2.7	52	20.3
" " 11	49	19.1	6	2.3	58	22.7
" " 18	35	13.7	4	1.5	52	20.3
" " 25	48	18.8	8	3.1	55	21.5
" Dec. 2	45	17.6	8	3.1	57	22.3
" " 9	46	18.0	8	3.1	64	25.0
" " 16	45	17.6	7	2.7	59	23.1
" " 23	39	15.2	6	2.3	58	22.7
" " 30	44	17.2	6	2.3	49	19.1

TABLE IX.

WARDS.	Popula- tion.	Deaths	Births.	Death Rate.	Birth Rate.	Deaths under one year per 1000 Births.	Death- rate from six Zymotic Diseases.	Death- rate from Diar- rhoea.	Death- rate from Bron- chitis and Pneu- monia.	Death- rate from Phthi- sis.
ST. STEPHEN'S...	9475	160	237	16.8	25.0	156.1	1.5	0.5	3.6	0.9
TRINITY .....	10352	162	235	15.6	22.7	182.9	2.3	0.5	2.5	0.6
ST. MICHAEL'S.	9098	141	224	15.4	24.6	138.3	1.8	0.3	1.9	1.3
ST. JOHN'S .....	8068	110	170	13.6	21.0	141.1	0.9	0.2	1.8	0.9
ST. SILAS' .....	9716	113	159	11.6	16.3	75.4	0.4	0.0	1.6	0.4
ST. PAUL'S .....	10181	189	260	18.5	25.5	153.8	1.4	1.3	2.9	1.2
ST. PETER'S.....	7802	178	183	22.8	23.4	131.1	2.1	1.2	3.8	0.7
ST. MARY'S .....	6874	153	159	22.2	23.1	176.1	1.7	1.3	5.5	2.4
ST. MATTHEW'S.	10155	183	275	18.0	27.0	130.9	0.8	0.6	3.4	1.3
ST. THOMAS' ...	13129	180	303	13.7	23.0	132.0	1.3	0.6	2.6	0.8
PARK .....	9293	152	248	16.3	26.6	157.2	0.6	0.8	3.9	1.1
ST. LUKE'S .....	8814	168	261	19.0	29.6	206.8	0.9	1.0	4.1	1.1
ST. MARK'S .....	9242	143	223	15.4	24.1	121.0	0.7	0.6	3.1	1.2
ST. ANDREW'S...	10543	151	256	14.3	24.2	125.0	1.6	0.5	2.1	0.7
BOROUGH .....	132742	2183	3193	16.4	24.0	146.2	1.3	0.7	3.0	1.0

TABLE X.

Towns.	Birth Rate.	Death Rate.	Deaths under 1 year per 1000 births	Death rate over one year.	Death rate from the seven Zymotic diseases	Death rate from Diarrhoea.	Death rate from Violence.	Death rate from Inquest.	Death rate from uncertified causes.
London ...	27·1	15·6	131	12·0	1·45	·77	·65	1·5	·03
West Ham	30·6	14·8	154	10·1	2·98	1·49	·56	1·1	·006
Croydon ...	26·5	12·5	96	10·0	·98	·63	·52	1·0	·006
Brighton...	22·9	10·9	100	11·1	·54	·32	·49	1·1	·06
Portsmouth	27·7	16·6	133	12·3	0·62	·81	·58	1·2	·23
Plymouth...	25·6	16·8	136	13·3	1·40	·75	·52	1·2	·01
Bristol.....	27·0	14·5	122	11·2	1·49	·34	·52	1·2	·04
Cardiff.....	28·6	13·3	118	9·9	1·14	·27	·75	1·4	·02
Swansea ...	31·9	16·6	131	12·4	1·37	·39	·64	1·2	·08
W'h'mpton	28·7	15·0	136	11·0	2·26	1·14	·49	1·1	·06
B'rm'ng'h'm	29·2	16·1	155	11·8	1·90	·77	·60	0·8	·56
N'rw'ich ...	27·5	16·2	174	11·4	1·59	1·13	·42	1·0	·16
Leicester...	25·8	13·2	147	9·4	1·62	·88	·42	0·8	·17
Notting'h'm	26·5	16·5	155	12·3	2·27	·70	·70	1·1	·12
Derby .....	25·4	14·5	151	10·6	1·52	·56	·53	1·5	·00
Birkenhead	32·0	15·3	127	11·3	1·85	·94	·62	1·3	·05
Liverpool..	33·3	19·6	154	14·4	2·59	1·30	·72	1·2	·65
Bolton.....	25·0	15·0	166	10·8	1·93	·98	·39	1·0	·06
Manchester	29·4	18·0	157	13·3	2·23	1·07	·74	1·2	·29
Salford ...	30·5	16·9	150	12·3	2·55	1·12	·56	1·1	·06
Oldham ...	24·2	18·0	150	14·2	2·09	·60	·46	1·1	·007
Burnley ...	26·5	16·5	173	11·9	2·32	1·28	·57	1·0	·18
<b>Blackburn</b>	<b>24·0</b>	<b>16·4</b>	<b>146</b>	<b>12·9</b>	<b>2·03</b>	<b>·70</b>	<b>·45</b>	<b>1·0</b>	<b>·49</b>
Preston...	28·2	17·9	152	13·5	3·14	1·24	·61	0·8	·50
Hudd'sfield	23·8	16·9	119	14·1	1·09	·34	·60	1·1	·10
Halifax ...	19·1	14·6	130	12·0	·98	·21	·46	1·0	·18
Bradford...	21·1	15·2	144	12·1	1·43	·44	·55	1·0	·17
Leeds .....	27·0	15·2	152	11·1	1·58	·75	·55	1·3	·02
Sheffield ...	29·7	17·0	167	11·9	3·19	1·45	·53	0·8	·39
Hull.....	30·0	16·2	153	11·6	2·37	1·22	·66	1·2	·16
Sunderland	34·3	18·6	143	13·6	2·23	·74	·69	1·1	·56
Gateshead..	32·7	15·5	138	10·9	1·66	·60	·43	0·6	·99
Newcastle..	32·1	16·8	135	12·4	1·35	·55	·78	1·4	·10

TABLE XI.

Death-rates from Zymotic Diseases in the 33 large towns.

	Small Pox.	Measles	Scarlet Fever.	Diph- theria.	W'ping Cough.	Enteric Fever.	Diarrhoea
London ....	·00	·27	·09	·10	·27	·04	·77
West Ham	·00	·26	·09	·23	·52	·08	1·49
Croydon ...	·00	·10	·07	·13	·19	·03	·63
Brighton ...	·00	·02	·007	·03	·08	·01	·32
Portsmouth	·00	1·08	·04	·25	·20	·07	·81
Plymouth ...	·00	·08	·22	·10	·04	·05	·75
Bristol .....	·00	·42	·07	·12	·28	·01	·34
Cardiff .....	·00	·44	·02	·10	·16	·04	·27
Swansea ...	·00	·25	·09	·17	·04	·04	·39
Wolverh'ton	·00	·29	·09	·14	·10	·06	1·14
Birmingham	·002	·35	·07	·13	·21	·04	·77
Norwich ...	·00	·007	·009	·13	·10	·05	1·13
Leicester ...	·00	·23	·10	·04	·13	·02	·88
Nottingham	·005	·92	·06	·17	·23	·08	·70
Derby .....	·01	·37	·07	·13	·16	·06	·56
Birkenhead	·00	·25	·17	·22	·07	·05	·94
Liverpool ...	·00	·30	·28	·16	·16	·09	1·30
Bolton .....	·00	·53	·007	·08	·04	·14	·98
Manchester	·00	·35	·09	·15	·28	·07	1·07
Salford .....	·00	·29	·22	·28	·16	·13	1·12
Oldham .....	·04	·44	·25	·07	·36	·06	·60
Burnley .....	·04	·13	·20	·16	·12	·10	1·28
<b>Blackburn</b>	<b>·00</b>	<b>·31</b>	<b>·57</b>	<b>·24</b>	<b>·08</b>	<b>·11</b>	<b>·70</b>
Preston .....	·007	·18	·05	·12	·68	·09	1·24
Huddersfield	·00	·05	·08	·06	·13	·16	·34
Halifax .....	·00	·01	·06	·21	·28	·04	·21
Bradford ...	·02	·04	·13	·23	·33	·08	·44
Leeds... ..	·007	·12	·07	·08	·19	·09	·75
Sheffield ...	·00	·91	·16	·09	·25	·08	1·45
Hull .....	·01	·09	·08	·19	·45	·08	1·22
Sunderland	·00	·59	·001	·16	·36	·15	·74
Gateshead...	·007	·26	·08	·12	·19	·01	·60
Newcastle ..	·007	·10	·05	·14	·26	·03	·55



TABLE XII.

Showing Population, Birth-rates, and Death-rates, for the last 20 years in Blackburn.

Year.	Estimated Population.	Birth Rate.	Death Rate.	Zymotic Death rate including Diarrhoea.	Death rate from Bronchitis, Pneumonia & Pleurisy.	Death rate from Phthisis.	Death rate from other Tubercular Diseases	Deaths under one per 1000 Births.
1886	112,153	35·6	24·7	3·8	4·4	1·8	...	157
1887	113,774	36·5	25·3	4·0	5·8	1·5	...	204
1888	115,418	35·6	24·0	3·9	5·8	1·5	...	190
1889	117,086	35·5	25·4	5·1	6·8	1·5	0·7	221
1890	118,780	33·8	23·4	2·8	7·0	1·8	0·7	194
1891	120,245	33·9	25·9	4·3	7·6	1·3	0·7	207
1892	120,972	32·0	21·0	2·8	5·1	1·0	0·9	199
1893	121,704	31·4	22·9	4·8	5·3	1·1	1·1	241
1894	122,440	29·5	17·7	2·9	3·9	1·2	0·7	168
1895	123,181	31·6	25·0	6·1	4·7	1·2	1·1	235
1896	123,926	28·6	18·3	1·9	3·8	1·1	0·5	172
1897	124,675	29·1	20·2	3·2	4·0	1·1	0·7	207
1898	125,430	29·1	19·4	2·6	3·6	1·2	0·5	204
1899	126,185	28·8	20·6	2·7	4·4	1·2	0·5	193
1900	126,951	27·0	22·2	3·9	4·8	1·1	0·7	221
1901	127,719	26·5	19·5	3·0	3·7	1·1	0·7	193
1902	130,239	25·7	17·2	1·9	3·5	1·2	0·7	157
1903	131,079	25·2	15·7	1·7	3·3	0·9	0·6	158
1904	131,908	23·5	17·2	2·4	3·7	0·9	0·6	191
1905	132,742	24·0	16·4	2·0	3·0	1·0	0·6	146

TABLE XIII.  
INQUEST CASES.

Natural Causes .....	58
Accidents .....	31
Suicide.....	18
Excessive Drinking .....	6
Blood Poisoning .....	2
Manslaughter .....	2
Drowning .....	1
Scalds: 2 years, 3 years, and 4 years .....	3
Burns .....	16
Suffocated .....	3

Ages of persons burnt :—Two years (2), three years (2), fours years, five years, 37 years, 43 years, 44 years. 50 years. 51 years, 52 years, 58 years, 63 years, 67 years, and 76 years.

Ages of persons suffocated :—Six weeks, fourteen weeks and sixteen weeks.

There were 140 Inquests during the year as compared with 118 in 1904.

## INFANTILE MORTALITY.

During 1905 the death-rate amongst children under one year of age per 1,000 births was 146.2. Although this might be diminished still further, it is a very satisfactory record, since it represents the lowest Infantile death-rate for the last 20 years.

The Infantile death-rate during 1904 was 191 per 1,000 births.

The Infantile death-rates for England and Wales during 1905 were as follows:—

England and Wales .....	128	per 1.000 Births.
76 Great Towns .....	140	..
141 Smaller Towns .....	132	..
England and Wales (less the 217 towns) .....	113	.,

The climatic conditions during the summer of 1905 did not favour any prolonged prevalence of Epidemic Diarrhœa, which is often such a prolific cause of Infantile deaths during a hot summer.

During 1905, 467 Deaths occurred under the age of one year out of the total number of Deaths, 2,183, namely, more than one-fifth, or 21.3 per cent.

The excess of an Infantile Mortality above 100 Deaths per 1,000 births should be considered to be due to causes which are preventible. Accordingly, there is room for still further improvement in Blackburn. It is significant that the same diminution in the general death-rate during the last twenty or thirty years has not occurred in the Infantile death-rate.

The greatest number of Deaths under one year during 1905 occurred from Premature Birth and Developmental causes. The next most frequent causes of death during the first year of life occurred from Lung Diseases, Diarrhœa, and Debility. The common Infectious Diseases do not cause many deaths during the first year.



On referring to Table IX. it will be seen that only one ward had an Infantile death-rate during 1905 of less than 100 per 1,000 births, and this was St. Silas's Ward.

The greatest Infantile death-rate during the year occurred in St. Luke's Ward.

Trinity and St. Mary's Wards had the next highest Infantile death-rates in 1905.

In Table XVII. I have arranged, as in previous years, the Deaths under one year, according to days, weeks, and months; and the following conclusions may be drawn from this analysis:—

- I. The number of Deaths on the *first day* of life was far greater than on any succeeding day, and was greater by 16 than the combined total of Deaths on the 2nd, 3rd, 4th, 5th, 6th, and 7th days of life.
- II. The number of Deaths during the *first week* of life was greater by 43 than the combined total of Deaths during the 2nd, 3rd, and 4th weeks of life.
- III. The number of Deaths during the *first month* of life was at least three times as great as the number in any succeeding month during the first year of life, and was also equal to about one-third of the remaining Deaths in the first year. There was a decided fall in the mortality during the fourth month, which was followed by a rise. During the last three months of the first year of life the mortality fell again.

The causes of the Infantile Mortality may be divided into:—

- I. Those causes which may act injuriously before the birth of the child.
- II. Those causes acting injuriously upon the Infant after birth.

The means for the prevention of Infantile Mortality are included in:—

- I. Energetic sanitation.
- II. Educational measures such as the training of School Teachers in Hygiene in such a way that they may impart this knowledge to their scholars. It is especially important that the elder girls at school should be taught the essentials of feeding and managing young children.

1.678 homes where a Birth occurred during the year have been visited by the District Inspectors. Particulars as to feeding were obtained and suitable instructions given. This is work, however, which could be carried out usefully by a Certificated Lady Sanitary Inspector.

Public attention has been drawn to the question of Infantile Mortality on many occasions.

In the "Times" of December 26th. 1905. appeared an interesting account of certain methods adopted in Paris with the object of preventing the wastage of child life.

The Frenchwoman has discovered that for less than the price of one bottle of sterilised milk for the baby a substantial meal may be given to both mother and child.

There are five such restaurants in Paris.

There is a system of free milk distribution for Infants in Paris, which goes on at all the Government dispensaries.

There is also a Society for Nursing Mothers, which has been established since 1876, and is recognised by the Government. The same idea of preserving the mother's health for the sake of the child has prompted this piece of work. It is divided into two branches—before birth and after birth. The former branch consists of homes where destitute mothers are received

for the last few weeks before the birth of the child. They are fed and cared for until the time comes for them to be passed on to a maternity hospital, and thence out into the world again.

The second part of the work is maintenance, or part maintenance, of mothers during the first year of their infant's life, so that they may be free to nourish them naturally. For this purpose relief bureaux and dispensaries have been opened. Each woman is put under a patroness who knows all about her, administers the allowance granted by the committee, and watches over her welfare. A doctor visits also. Each month the child is undressed, weighed, carefully examined, and medically treated if necessary. In this way 39,119 children have been watched over since the beginning of the Society in 1877.

Last July large placards were sent to "mothers of families" in Paris, containing directions for general health, cleanliness, and disinfection, and for dealing with the common ailments of children, especially fever and hot weather affections. There is also a paragraph containing precautions with regard to tuberculosis. This placard has been highly popular.

The article concludes by stating that, if we could pay more attention to the provision of cheap cooked food, and to Nature's own arrangements for her nurslings, we should be more sensibly equipped for our struggle with the physical deterioration of the people.

In this connection it is also very interesting to refer to an experiment in our own country, namely, Huddersfield. The particulars appeared in the "Times" of December 28th, 1905, and are so instructive that I have given them in full:—

"The experiment which has been tried now for 12 months in the industrial village of Longwood, in Yorkshire, may perhaps afford an object-lesson on a small scale of what might be attempted on a wider and more varied field of operations. The township of Longwood has been absorbed into the County Borough of Huddersfield, and now forms one of the wards of the Borough. Though absorbed, it is by no means merged,

but still keeps up a certain separateness and individuality. The population is 5,359, and the acreage 1,334; its height above sea level varies from 150ft. to 1,200ft.; there is no congested population, there are no slums; portions of the area are really urban, while other parts are almost purely agricultural. By far the greater part of the population, male and female, are factory workers engaged in the manufacture of woollen goods, with a sprinkling of quarrymen, masons, labourers, and small farmers. It is, however, to be noted that a comparatively small number of married women go out to work; there is a strong public opinion against this in the village. The death-rate for ten years has averaged 13.44 and the birth-rate 19.39, whilst the infantile mortality figure has been 122 for 1,000 births.

“In a community such as this, which, as the figures show, is not exceptional in any way, but may be considered as typical of many localities on the outskirts of manufacturing towns—favourable, indeed, in some respects, especially as to the infantile mortality figure—it was decided to see if there could be any appreciable effect produced on the wastage of infant life.

“The particular method of making the attempt may or may not be praiseworthy and capable of imitation; it took the form of a promise to pay £1 as a birthday present to each baby born in the district between November 9th, 1904, and November 9th, 1905, on its attaining the age of twelve months. The mere promise was, however, the smallest part of the plan. The promise was made by means of a legally drawn promissory note printed on a card, on which was also given as much condensed good counsel as could be compressed into the space. The really effective ‘working part’ of the scheme was a small committee of ladies. By means of the card the ladies obtained an introduction to the homes and paid visits periodically as occasion offered, helping the mothers with advice and sympathy. On various occasions, such as Christmas and Easter, little remembrances were sent to the individual babies, and at the commencement of the diarrhoea season, and at the onset of cold weather, short personal letters of advice as to the precautions needful were sent to each mother through the post.

"The machinery seems almost absurdly simple and inadequate, but the results so far speak for themselves. The average infantile mortality figure for ten years is 122; for the twelve months period referred to above, the figure is 54. In other words, coincident with the measures described, the infantile mortality figure is less than one-half the average. A more intimate analysis of the figures and the facts connected with them would enlarge and emphasise the value of the statistical result. This is only an intermediate stocktaking, and there remains still one-half the period to elapse before the complete result will be apparent. It should, however, be noted that the time already covered comprises a whole year with all its varying seasonal influences. There is no reason to anticipate a less favourable figure being arrived at for the whole period. On the contrary, it may well be that, with the additional experience and the further measures which have been elaborated as the results of that experience, together with the spread of information and the growing weight of public opinion, all reinforced by the encouragement afforded by the success already secured, a still greater improvement may be attained.

"Although it may seem somewhat dangerous to attempt to draw conclusions from so short a time and so restricted an area, there are certain deductions which, confirmed as they are by facts noted on other and widely-separated fields of observation, may be formulated as indicated if not proven.

"First, that this particular series of facts confirms the conclusion of the physical deterioration report that there is no indication of degeneracy, and that measures taken for the preservation of infant life help not only to save the lives of some who might have died, but more importantly these measures improve the physical development of all.

"Secondly, that an infantile mortality rate of over 100 is easily avoidable, and as a corollary that a rate higher than this means that the infants do not die, they are killed.

"Thirdly, that there is no general lack of maternal affection on the part of the mothers: speaking broadly and with



a certain reservation, the mothers are not to blame for the excessive mortality. A note without an exception is that where the husband does his duty to the wife, even approximately, the mother will always do her duty to her child.

“Fourthly, that there exists a most marked ignorance on the part of many mothers of how to feed, nurse, and tend their children, but with this ignorance there is generally a perfect readiness to learn as far as there is capacity, and on the part of young mothers an eager anxiety to be advised and helped in the rearing of their babies.

“Fifthly, that there are many conditions of modern life that tend to a high infantile mortality, the chief of these being the employment of married women as bread-winners for the family, and next to this the total exclusion from the instruction given to girls of everything bearing upon the care and upbringing of infants.

“Sixthly, that the primary object of every effort to prevent the wastage of infant life should be to help the mother in her home, never to separate mother and child, for a very second-rate mother is far superior to a first-rate nurse.

“Such are some of the conclusions drawn from a close and continuous study of the whole question of infantile mortality under many different conditions at home and abroad, and from an intimate knowledge of all the actual facts in one small area of personal observation.”



TABLE XIV.—Analysis of Deaths under One Year of Age for the last Eight Years.

	1898.		1899.		1900.		1901.		1902.		1903.		1904.		1905.	
	Deaths.	Rate per 1000 Births	Deaths.	Rate per 1000 Births	Deaths.	Rate per 1000 Births	Deaths.	Rate per 1000 Births	Deaths.	Rate per 1000 Births	Deaths.	Rate per 1000 Births	Deaths.	Rate per 1000 Births	Deaths.	Rate per 1000 Births
Zymotic diseases ...	17	4.6	51	14.0	57	16.5	36	10.6	29	8.6	24	7.2	54	17.4	22	6.8
Diarrhoea .....	153	41.8	79	21.7	143	41.5	149	44.0	54	16.0	78	23.6	98	31.6	76	23.8
Lung Diseases .....	114	31.1	107	29.3	140	40.7	100	29.8	99	29.4	116	35.1	139	44.8	83	25.9
Convulsions .. ...	51	13.9	54	14.8	49	14.5	40	11.5	23	6.8	30	9.0	30	9.6	26	8.1
Tuberculosis.....	31	8.4	26	7.1	45	13.0	41	12.1	46	13.7	38	11.5	43	13.8	28	8.7
Debility, Atrophy, Marasmus, Inanition	63	17.2	39	10.7	24	6.9	47	13.8	69	20.5	40	13.9	59	19.0	54	16.9
Premature Birth, Developmental..	93	25.3	105	28.8	110	31.9	103	30.4	90	26.8	100	30.2	97	31.2	86	26.9
Dentition .....	12	3.2	21	5.7	17	4.9	18	5.3	20	5.9	7	2.1	10	3.2	10	3.1
All Others.....	216	58.9	223	6.1	177	51.4	122	36.0	100	29.7	84	25.4	65	20.9	82	25.6
All Causes .....	750	204.8	706	193.7	762	221.6	656	193.7	530	157.8	523	158.2	595	191.9	467	146.2

TABLE XV.

Particulars of the Nursing and Feeding of 1,678 Children, under seven months old, visited by the Inspectors.

DISTRICT.	Total number visited.	Number nursed by mother.	Number nursed by other persons.	Number nursed at home.	Number nursed away.	How Fed.								Only lived a day or two.	Out, but instructions left.	Removals.
						Breast only.	Breast & bottle with long tube.	Breast & bottle boat shape.	Breast, and fed with spoon.	Tube shape bottle only.	Boat shaped bottle only.	Boat shaped bottle, and fed with spoon.	Tube shape bottle, and fed with spoon.	Other means.		
1	462	236	15	236	15	99	—	3	59	39	24	4	17	6	140	50
2	411	192	11	192	11	85	4	4	41	19	23	1	20	6	127	51
3	398	165	14	167	12	60	7	3	36	26	18	3	14	12	161	43
4	407	192	16	199	9	76	—	5	35	39	31	3	11	8	111	61
Total...	1678	785	56	794	47	320	11	15	171	123	96	11	62	32	539	205

Summarising the important points :—

About 93 per cent. of the Children were nursed by the mothers.

38 " " fed on the breast alone.

23 " " partly on the breast and partly by hand.

38 " " wholly fed by hand.

TABLE XVI.

28 Large Towns.	Deaths Under One Year to a 1,000 Births Registered.														
	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901	1902	1903	1904	*1905	Average
London .....	154	164	143	165	160	158	167	167	160	149	141	131	144	131	152
Brighton .....	151	169	138	164	135	142	181	173	166	163	125	110	134	100	146
Portsmouth .....	155	164	131	174	154	168	156	197	155	162	151	113	141	133	153
Norwich .....	181	195	164	190	164	196	192	179	178	186	156	149	179	174	177
Plymouth .....	137	169	168	178	177	183	170	190	175	149	154	144	173	136	164
Bristol .....	147	141	149	143	142	148	164	158	133	130	130	116	133	122	139
Wolverhampton ..	172	208	165	217	184	217	200	184	206	162	133	141	152	136	177
Birmingham .....	165	198	163	182	197	215	191	191	199	186	156	158	195	155	182
Leicester .....	197	220	162	202	187	205	191	195	175	175	152	161	163	147	182
Nottingham .....	167	170	173	189	168	206	178	210	196	193	158	164	175	155	178
Derby .....	173	156	123	160	150	167	169	162	174	154	124	128	143	151	152
Birkenhead .....	168	196	142	173	176	162	186	183	160	181	148	155	180	127	167
Liverpool .....	180	211	179	210	172	200	184	198	186	187	162	159	196	154	184
Bolton .....	185	199	161	211	168	186	168	181	171	171	134	152	167	166	173
Manchester .....	178	203	159	203	176	194	197	206	189	198	152	168	187	157	183
Salford .....	185	210	173	230	199	220	212	209	207	204	155	166	193	150	193
Oldham .....	176	187	160	189	183	183	175	198	172	172	148	160	155	150	172
<b>Blackburn</b> .....	<b>199</b>	<b>241</b>	<b>168</b>	<b>235</b>	<b>172</b>	<b>207</b>	<b>205</b>	<b>189</b>	<b>221</b>	<b>193</b>	<b>157</b>	<b>159</b>	<b>191</b>	<b>146</b>	<b>191</b>
Preston .....	216	269	203	248	176	263	225	255	236	216	188	161	183	152	213
Gloucestersfield ..	149	141	169	157	166	130	153	152	132	131	137	120	136	119	142
Halifax .....	159	173	134	157	148	140	163	159	132	127	143	122	130	130	144
Bradford .....	154	197	144	202	141	178	185	181	141	168	138	147	166	144	163
Leeds.....	168	206	155	193	168	191	182	171	183	188	159	153	176	152	174
Sheffield .....	170	191	156	196	172	197	195	194	200	200	149	182	158	167	180
Hull .....	165	206	141	205	173	178	182	175	183	174	137	162	181	153	172
Sunderland .....	156	188	166	188	157	164	202	175	169	181	152	156	165	143	168
Newcastle-on-Tyne ..	150	174	156	186	165	177	190	193	170	178	139	165	156	135	166
Cardiff .....	163	179	141	178	165	150	158	184	141	147	146	122	144	118	152
Average.....	168	190	156	190	168	183	172	186	175	171	147	147	164	143	

\*These figures are taken from the Registrar's Report and refer to the 52 weeks ending December 31st 1904.

\*These figures are taken from the Registrar's Report and refer to the 52 weeks ending December 31st, 1904.

TABLE XVII. Deaths under One Year, arranged according to Days, Weeks, and Months.

	1st day.	2nd day.	3rd day.	4th day.	5th day.	6th day.	7th day.	1st week.	2nd week.	3rd week.	4th week.	Under 1 month.	1 month to 2.	2 months to 3.	3 months to 4.	4 months to 5.	5 months to 6.	6 months to 7.	7 months to 8.	8 months to 9.	9 months to 10.	10 months to 11.	11 months to 12.	TOTAL.
Six Zymotic Diseases .....	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	1	...	1	4	1	2	7	4	22
Diarrhoea .....	...	...	...	...	...	...	...	...	1	4	1	6	8	9	5	15	11	8	3	6	3	1	1	76
Lung Diseases .....	1	...	...	...	...	...	...	1	1	1	1	4	9	3	4	10	7	9	11	7	10	4	5	83
Convulsions .....	1	2	1	...	1	...	...	5	1	6	2	14	3	2	...	6	...	...	...	1	...	...	...	26
Tuberculosis .....	...	...	...	...	...	...	...	...	...	...	...	...	3	1	1	3	8	2	3	3	3	...	1	28
Debility, Marasmus, Atrophy, Inanition .....	4	1	...	1	...	...	...	6	1	1	3	11	9	7	3	7	7	6	3	1	...	...	...	54
Premature Birth .....	31	6	4	4	3	1	1	50	7	3	3	63	2	...	...	1	1	...	...	...	...	...	...	67
Dentition .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	1	...	1	2	2	2	10
All others .....	17	4	4	4	1	...	...	30	5	7	1	43	12	13	8	5	2	7	1	3	1	2	4	101
All Causes ...	54	13	9	9	5	1	1	92	16	22	11	141	47	35	22	48	38	34	25	23	21	16	17	467

TABLE XVIII.

Showing Deaths, Death Rates, and Birth Rates in Wards for each Month.

JANUARY.	Birth Rate.	Death Rate.	DEATHS.									
			Measles	Scarlet Fever	Whooping Cough	Croup	Typhoid Fever	Diphtheria	Diarrhoea	Lung Diseases	Tuberculosis	All other Causes
St. Stephen's.....	22.3	12.4	...	...	...	...	...	1	...	1	1	7
Trinity .....	21.6	15.9	...	1	1	...	...	...	...	5	...	7
St. Michael's .....	24.5	15.5	...	...	...	...	...	1	...	2	...	9
St. John's .....	18.9	23.3	...	...	...	...	...	...	...	3	2	11
St. Silas' .....	10.9	14.5	...	...	...	...	...	...	...	4	...	8
St. Paul's .....	31.2	18.4	...	2	...	...	...	...	1	4	...	9
St. Peter's .....	19.6	25.6	...	1	...	...	...	...	...	6	...	10
St. Mary's .....	25.6	18.8	...	...	...	...	...	...	...	4	2	5
St. Matthew's .....	26.6	20.8	1	...	...	...	...	...	...	6	1	10
St. Thomas' .....	24.0	20.6	...	...	...	...	1	...	...	4	3	15
Park .....	22.7	22.7	...	1	...	...	...	...	...	6	...	11
St. Luke's .....	35.8	23.9	...	...	...	...	...	...	...	7	1	10
St. Mark's .....	34.1	16.5	...	1	...	...	...	...	...	4	2	6
St. Andrew's.....	25.6	13.3	...	...	...	...	...	...	...	4	...	8
Borough.....	24.3	18.6	1	6	1	...	1	2	1	60	12	126

FEBRUARY.	Birth Rate.	Death Rate.	DEATHS.									
			Measles	Scarlet Fever	Whooping Cough	Croup	Typhoid Fever	Diphtheria	Diarrhoea	Lung Diseases	Tuberculosis	All other Causes
St. Stephen's.....	17.8	20.6	1	...	...	...	...	...	...	5	2	7
Trinity .....	22.6	16.3	...	...	...	...	...	...	...	2	3	8
St. Michael's .....	28.6	25.7	...	...	...	...	...	1	...	3	4	10
St. John's .....	16.1	8.0	...	...	...	...	...	...	...	...	2	3
St. Silas' .....	12.0	14.7	...	...	...	...	...	...	...	2	...	9
St. Paul's .....	15.3	17.9	...	...	...	...	...	...	...	2	2	10
St. Peter's .....	28.3	20.0	...	1	...	...	...	...	...	2	...	9
St. Mary's .....	17.0	18.9	1	...	...	...	...	...	1	3	2	3
St. Matthew's .....	25.6	17.9	...	1	...	...	...	...	1	4	1	7
St. Thomas' .....	13.8	17.8	...	2	...	...	...	...	...	3	3	10
Park .....	23.8	28.0	...	...	...	...	...	...	...	4	2	14
St. Luke's .....	31.0	25.1	...	...	...	...	...	...	...	5	3	9
St. Mark's.....	36.6	15.5	...	...	...	...	...	...	...	4	2	5
St. Andrew's.....	19.7	14.8	...	1	...	...	...	...	...	3	2	6
Borough.....	21.7	18.6	2	5	...	...	...	1	2	42	28	110



TABLE XVIII. — *continued.*

MARCH.	Birth Rate.	Death Rate.	DEATHS.									
			Measles	Scarlet Fever	Who'g C'gh	Croup	Typhoid Fever	Diphtheria	Diarrhoea	Lung Diseases	Tuber- culosis	All other Causes
St. Stephen's.....	22.3	16.1	..	..	..	..	..	..	6	..	7	
Trinity .....	29.6	18.1	..	..	..	..	..	..	2	2	12	
St. Michael's.....	33.5	14.2	..	..	..	..	1	..	..	..	10	
St. John's .....	21.8	17.5	..	1	..	..	..	..	5	..	6	
St. Silas' .....	14.5	7.2	..	1	..	..	..	..	1	..	4	
St. Paul's .....	24.2	16.1	..	..	..	..	..	1	3	2	8	
St. Peter's.....	30.1	21.1	..	..	..	..	..	..	2	1	11	
St. Mary's .....	23.9	22.2	..	..	1	..	1	..	1	2	8	
St. Matthews .....	30.1	18.5	..	..	..	..	1	1	5	1	8	
St. Thomas' .....	24.2	15.2	..	..	1	..	1	..	6	1	8	
Park .....	34.1	26.4	..	..	1	..	..	..	4	2	14	
St. Luke's.....	30.7	22.7	..	..	..	..	..	..	5	..	12	
St. Mark's.....	17.8	20.3	..	..	..	..	..	..	3	3	10	
St. Andrew's.....	30.1	18.9	..	1	..	..	..	..	1	4	11	
Borough.....	26.3	17.9	..	3	3	..	2	3	1	44	18	129

APRIL.	Birth Rate.	Death Rate.	DEATHS.									
			Measles	Scarlet Fever	Whooping Cough	Croup	Typhoid Fever	Diphtheria	Diarrhoea	Lung Diseases	Tuber- culosis	All other Causes
St. Stephen's.....	5.0	19.2	..	2	..	..	..	1	3	2	7	
Trinity .....	15.2	17.6	..	1	..	1	1	1	2	1	8	
St. Michael's.....	21.3	24.0	..	..	1	..	2	1	2	1	10	
St. John's .....	21.1	15.0	..	..	..	..	..	..	1	2	7	
St. Silas' .....	13.7	12.5	..	..	..	..	..	..	1	2	7	
St. Paul's .....	20.3	20.3	..	..	..	1	..	..	3	..	13	
St. Peter's .....	26.4	26.4	..	..	..	..	..	..	3	..	14	
St. Mary's.....	12.3	26.5	..	..	..	..	..	..	3	4	8	
St. Matthew's .....	32.3	14.3	..	..	..	..	..	1	1	1	9	
St. Thomas' .....	14.8	8.3	..	1	..	..	..	..	3	1	4	
Park .....	32.7	17.0	..	..	..	..	..	..	3	1	9	
St. Luke's.....	31.7	17.9	..	..	..	..	..	..	1	1	11	
St. Mark's.....	19.7	14.4	..	..	..	..	..	..	3	..	8	
St. Andrew's.....	23.8	11.5	..	..	..	..	..	1	2	3	4	
Borough.....	21.0	16.9	..	6	1	..	2	3	4	31	19	119



TABLE XVIII. - *continued.*

MAY.	Birth Rate.	Death Rate.	DEATHS.									
			Measles	Scarlet Fever	Whooping Cough	Croup	Typhoid Fever	Diphtheria	Diarrhoea	Lung Diseases	Tuberculosis	All other Causes
St. Stephen's .....	38.5	16.1	...	1	2	...	...	...	2	1	7	
Trinity .....	28.4	13.6	...	...	1	...	...	...	2	...	9	
St. Michael's.....	24.5	19.4	...	2	...	...	...	...	2	3	8	
St. John's .....	21.8	13.1	...	...	...	...	...	...	2	2	5	
St. Silas' .....	18.1	14.5	...	1	...	...	1	...	1	...	9	
St. Paul's .....	28.9	15.0	...	...	...	...	...	1	3	2	7	
St. Peter's.....	24.1	30.1	...	1	...	...	...	...	3	5	11	
St. Mary's .....	37.3	11.9	...	...	...	...	...	1	2	1	3	
St. Matthew's .....	27.8	11.5	...	...	...	...	...	...	1	1	8	
St. Thomas' .....	35.8	10.7	...	1	...	...	1	...	2	1	7	
Park .....	32.9	20.2	...	...	...	...	...	...	5	3	8	
St. Luke's .....	22.7	18.6	...	...	...	...	1	...	2	2	9	
St. Mark's .....	27.9	11.4	1	...	...	...	...	1	1	...	6	
St. Andrew's .....	32.3	20.0	...	2	...	...	...	...	2	...	14	
Borough.....	27.9	15.9	1	8	3	...	3	2	4	27	21	111

JUNE.	Birth Rate.	Death Rate.	DEATHS.									
			Measles	Scarlet Fever	Whooping Cough	Croup	Typhoid Fever	Diphtheria	Diarrhoea	Lung Diseases	Tuber- culosis	All other Causes
St. Stephen's.....	41.1	16.6	...	...	...	...	...	...	1	3	1	3
Trinity .....	25.8	11.7	...	...	...	...	...	...	...	2	...	8
St. Michael's.....	29.4	10.6	...	...	...	...	...	...	1	2	...	5
St. John's .....	18.0	13.0	...	...	...	...	...	...	1	1	2	8
St. Silas' .....	27.5	6.2	...	...	...	...	...	...	...	...	1	4
St. Paul's .....	34.6	16.7	...	...	...	...	...	...	1	6	2	5
St. Peter's.....	28.0	17.1	...	1	...	...	...	...	...	3	2	5
St. Mary's.....	26.5	19.5	...	...	...	...	...	...	...	4	...	7
St. Matthew's .....	33.5	17.9	...	...	...	...	...	...	1	1	2	11
St. Thomas' .....	21.3	10.1	...	...	...	...	...	...	...	4	2	5
Park .....	27.4	10.4	...	...	...	...	...	...	...	1	...	7
St. Luke's.....	30.3	12.4	...	2	...	...	...	...	...	2	...	5
St. Mark's.....	15.7	11.8	...	...	...	...	...	...	...	...	1	8
St. Andrew's .....	19.6	11.5	...	1	...	...	...	...	...	2	3	4
Borough.....	27.2	13.3	...	4	...	...	...	...	5	31	16	90

TABLE XVIII. - *continued.*

JULY.	Birth Rate.	Death Rate.	DEATHS.									
			Measles	Scarlet Fever	Whooping Cough	Croup	Typhoid Fever	Diphtheria	Diarrhoea	Lung Diseases	Tuber- culosis	All other Causes
St. Stephen's.....	33·5	11·1	..	1	..	..	..	..	..	..	1	8
Trinity .....	27·2	11·3	..	..	..	..	..	1	..	..	..	8
St. Michael's.....	28·4	10·3	..	2	..	..	..	1	..	2	..	3
St. Silas' .....	43·7	8·7	..	..	..	..	..	..	..	1	1	4
St. John's .....	16·9	6·0	..	..	..	..	..	..	..	..	..	5
St. Paul's .....	20·8	19·6	..	..	..	..	..	2	1	..	3	11
St. Peter's .....	15·0	16·5	..	1	1	..	1	..	..	..	1	7
St. Mary's .....	17·1	22·2	..	1	..	..	..	1	..	..	3	8
St. Matthew's .....	25·4	19·7	..	..	..	..	..	..	2	..	..	15
St. Thomas' .....	28·6	7·1	..	..	..	..	..	..	..	..	1	7
Park .....	31·6	10·1	..	..	..	..	..	..	..	..	..	1
St. Luke's .....	26·7	14·6	..	..	..	..	..	1	1	..	..	9
St. Mark's.....	24·1	15·2	..	..	1	..	..	3	..	..	3	5
St. Andrews.....	21·2	4·5	..	1	..	..	..	..	..	..	1	2
Borough.....	25·8	11·7	..	6	2	..	1	3	6	7	14	93

AUGUST.	Birth Rate.	Death Rate.	DEATHS									
			Measles	Scarlet Fever	Whooping Cough	Croup	Typhoid Fever	Diphtheria	Diarrhoea	Lung Diseases	Tuber- culosis	All other Causes
St. Stephen's.....	22·3	22·3	..	1	..	..	..	..	1	..	4	12
Trinity .....	21·6	12·5	..	2	..	..	..	..	3	..	1	5
St. Michael's.....	28·4	16·8	..	2	..	..	..	..	1	1	3	6
St. John's .....	14·5	4·3	..	..	..	..	..	..	1	1	..	1
St. Silas' .....	15·7	3·6	..	..	..	..	..	..	..	1	..	2
St. Paul's .....	34·6	25·4	..	1	..	..	..	..	4	3	2	12
St. Peter's.....	25·6	22·6	..	3	..	..	..	..	4	1	1	6
St. Mary's .....	15·4	22·2	..	..	..	..	..	1	3	3	1	5
St. Matthew's .....	30·1	16·2	..	1	..	..	..	..	1	1	3	8
St. Thomas' .....	24·2	9·8	..	..	..	..	..	..	..	3	1	7
Park .....	26·5	18·9	..	..	..	..	..	..	4	2	2	7
St. Luke's .....	38·7	22·7	..	1	..	..	..	..	2	2	4	8
St. Mark's.....	25·4	12·7	..	..	..	..	..	..	2	..	2	6
St. Andrew's.....	26·7	13·3	..	1	..	..	..	..	2	..	1	8
Borough.....	25·2	15·7	..	12	..	..	..	..	12	8	25	93

TABLE XVIII. *continued.*

SEPTEMBER.	Birth Rate.	Death Rate.	DEATHS.								
			Measles	Scarlet Fever	Wh'g C'gh	Croup	Typhoid Fever	Diphtheria	Diarrhoea	Lung Diseases	Tuber- culosis
St. Stephen's. . . . .	20.5	15.3	..	..	..	..	..	1	3	3	5
Trinity . . . . .	24.6	8.2	..	..	..	..	..	1	1	2	3
St. Michael's. . . . .	13.3	12.0	..	..	..	..	..	..	..	3	6
St. John's . . . . .	18.0	9.0	..	1	..	..	..	..	1	..	4
St. Silas' . . . . .	22.5	3.7	..	..	..	..	..	..	..	..	3
St. Paul's . . . . .	22.6	20.3	..	1	..	..	1	2	3	1	8
St. Peter's. . . . .	17.1	20.2	..	..	..	..	..	..	3	3	7
St. Marv's. . . . .	28.3	21.2	..	1	..	..	..	..	4	4	2
St. Matthew's . . . . .	25.1	10.7	..	..	..	..	..	..	1	3	4
St. Thomas' . . . . .	23.1	16.5	..	..	..	..	..	1	6	4	7
St. Luke's . . . . .	18.3	10.4	..	..	..	..	..	..	4	..	2
Park . . . . .	24.8	16.5	..	..	..	..	..	..	2	2	7
St. Mark's . . . . .	15.7	11.8	..	..	..	..	..	..	..	1	6
St. Andrew's. . . . .	21.9	11.5	..	1	..	..	..	1	1	2	4
Borough. . . . .	21.2	13.2	..	4	..	..	1	4	26	25	68

OCTOBER.	Birth Rate.	Death Rate.	DEATHS.									
			Measles	Scarlet Fever	Wh'g C'gh	Croup	Typhoid Fever	Diphtheria	Diarrhoea	Lung Diseases	Tuber- culosis	All other Causes
St. Stephen's.. .. .	27.3	19.8	...	3	...	...	...	...	...	3	1	9
Trinity ... ..	19.3	22.7	1	4	...	...	1	...	...	1	1	12
St. Michael's.....	16.8	10.3	...	1	...	...	...	1	...	...	1	5
St. John's .....	23.3	11.6	...	...	...	...	...	...	...	1	2	5
St. Silas' .....	15.7	18.1	...	1	...	...	...	...	...	1	2	11
St. Paul's .....	20.8	12.7	...	...	1	...	...	...	1	1	...	8
St. Peter's .....	22.6	24.1	...	1	...	...	...	...	2	3	1	9
St. Mary's .....	23.9	23.9	...	...	...	...	...	1	...	5	2	6
St. Matthew's .....	19.7	26.6	...	1	...	...	...	...	2	4	3	13
St. Thomas' ..	21.5	15.2	...	2	...	...	...	...	2	...	2	11
Park .....	31.6	7.5	...	...	...	...	...	...	1	1	3	1
St. Luke's .....	26.7	16.0	...	...	...	...	...	...	3	2	1	6
St. Mark's .....	26.7	16.5	1	...	...	...	...	...	...	4	3	4
St. Andrew's.....	32.3	14.5	2	1	...	...	...	1	1	1	...	8
Borough.....	23.4	17.0	4	1	4	1	...	1	3	12	27	108

TABLE XVIII.—*continued.*

NOVEMBER.	Birth Rate.	Death Rate.	DEATHS.									
			Measles	Scarlet Fever	Whooping Cough	Croup	Typhoid Fever	Diphtheria	Diarrhoea	Lung Diseases	Tuberculosis	All other Causes
St. Stephen's.....	25·6	15·4	1	...	...	...	...	...	1	4	1	5
Trinity .....	21·1	14·0	4	1	...	...	...	...	...	...	...	7
St. Michael's.....	22·7	9·3	1	...	...	...	...	...	...	1	...	5
St. John's .....	13·5	13·5	2	1	...	...	...	1	...	1	...	4
St. Silas' .....	11·2	13·7	...	...	...	...	...	...	...	2	...	9
St. Paul's .....	29·3	16·7	1	...	...	...	...	...	...	3	1	9
St. Peter's.....	18·8	24·9	1	...	...	...	...	1	...	2	1	11
St. Mary's.....	17·6	30·0	1	...	...	...	1	...	...	6	2	7
St. Matthew's .....	25·1	19·1	...	1	...	...	...	...	...	5	1	9
St. Thomas' .....	23·1	14·8	...	...	...	...	...	...	...	4	...	12
Park .....	15·7	10·4	...	...	...	...	...	1	...	3	...	4
St. Luke's.....	30·3	22·0	...	...	...	...	...	...	1	5	...	10
St. Mark's.....	23·6	22·3	...	...	...	...	...	...	...	4	2	11
St. Andrew's .....	13·8	27·6	3	...	...	...	...	2	...	5	1	13
Borough.....	21·0	17·8	14	3	...	...	1	4	3	45	9	116

DECEMBER.	Birth Rate.	Death Rate.	DEATHS.									
			Measles	Scarlet Fever	Whooping Cough	Croup	Typhoid Fever	Diphtheria	Diarrhoea	Lung Diseases	Tuberculosis	All other Causes
St. Stephen's.....	22·3	16·1	...	...	...	...	...	2	...	5	3	3
Trinity .....	14·7	23·8	2	...	...	...	1	...	...	9	...	9
St. Michael's.....	23·2	15·5	1	...	...	...	...	...	...	2	...	7
St. John's .....	20·4	14·5	...	...	...	...	...	1	...	2	3	4
St. Silas' .....	16·9	18·1	...	...	...	...	...	...	...	3	1	11
St. Paul's .....	21·9	20·8	1	3	...	...	...	...	...	5	...	9
St. Peter's.....	25·6	25·6	3	...	...	...	...	1	...	4	1	8
St. Mary's.....	30·8	23·9	1	...	...	...	...	...	1	5	2	5
St. Matthew's .....	23·1	16·2	1	...	...	...	1	...	...	1	4	7
St. Thomas' .....	21·5	14·3	3	1	...	...	1	...	...	5	2	4
Park .....	21·5	16·4	1	2	...	...	...	...	...	5	1	4
St. Luke's.....	26·7	14·6	4	...	...	...	...	...	...	3	1	3
St. Mark's.....	22·9	10·1	...	1	...	...	...	...	...	1	...	6
St. Andrew's .....	17·8	11·1	...	...	...	...	...	1	...	4	3	2
Borough.....	21·8	17·0	17	7	...	...	3	5	1	54	23	82

## ZYMOTIC DISEASES.

The Zymotic death-rate during 1905 was 2·03, compared with 2·47 in 1904. The Zymotic death-rates for 1903 and 1902 were respectively 1·7 and 1·9.

The Zymotic death-rates in 1905 for England and Wales were as follow :—

England and Wales.....	1·52	per 1,000 living.
76 Great Towns .....	1·88	„
141 Smaller Towns .....	1·50	„
England and Wales less the 217 Towns...	1·09	„

TABLE XIX.

	33 Large Towns.	Black- burn.
Seven Zymotic Diseases .....	1·64	2·03
Smallpox ... ..	·004	0·00
Measles .....	·30	0·31
Scarlet Fever .....	·11	0·57
Whooping Cough .....	·21	0·08
Typhoid Fever .. ..	·07	0·11
Diarrhœa and Epidemic Enteritis .....	·80	0·70
Diphtheria .....	·14	0·24

Regarding the Zymotic Diseases, which are compulsorily notifiable, it will be seen on reference to Table XXI. that a total number of 1,985 notifications was received during 1905. This is more by 1,266 than the number received during 1904, the increase being due to the Scarlet Fever epidemic.

Of these 1,985 notifications, 1,578, or 79.4 per cent., were cases of Scarlet Fever.

The next most frequently notified Diseases were, in order:—Diphtheria, Erysipelas, Enteric Fever, Puerperal Fever, and Smallpox.

Regarding the age-periods of these 1,985 notifications, 1,044 occurred between 5 and 15 years of age, 561 between 1 and 5 years, 198 between 25 and 65 years, and 156 between 15 and 25 years of age.

The cases above the age of 25 years were due chiefly to Erysipelas and Enteric Fever.

Of the various Wards, the greatest amount of notifiable infection occurred in Trinity and St. Paul's Wards, and the least amount in St. Mary's, St. Matthew's, and St. Peter's Wards.

#### NOTIFICATION FEES.

The total cost of the fees paid to medical men for notifying cases of Infectious Diseases during 1905 was £291 1s. 6d.



TABLE XX.

Shewing number of cases of Infectious Diseases notified from 1887 to 1905.

Disease.	1887	1888	1889	1890	1891	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905
Smallpox .....	42	98	...	...	...	4	79	13	...	...	...	...	...	23	...	49	92	2	4
Scarlet Fever...	1695	829	737	324	196	176	190	156	224	287	185	347	615	1476	1117	494	339	458	1578
Diphtheria.....	...	...	4	5	1	3	2	38	31	25	15	77	229	334	284	83	132	60	157
Enteric Fever	153	146	111	121	106	79	161	129	119	143	179	228	233	163	131	127	97	111	90
Typhus .....	...	...	...	...	...	...	1	...	...	...	1	...	1	...	...	...	...	...	...
Cholera .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Total .....	1890	1073	852	450	303	262	432	336	375	455	380	652	1078	1996	1532	753	660	631	1829

TABLE XXI.

## Cases of Infectious Disease notified during the Year 1905.

NOTIFIABLE DISEASE.	Cases notified in whole District.						Total Cases notified in each Locality.											Number of Cases removed to Hospital from each Locality.																	
	At Ages - Years.						Trinity	St. Stephen's	St. Michael's	St. John's	St. Silas'	St. Paul's	St. Peter's	St. Mary's	St. Matthew's	St. Thomas'	Park	St. Luke's	St. Mark's	St. Andrew's	Trinity	St. Michael's	St. John's	St. Silas'	St. Paul's	St. Peter's	St. Mary's	St. Matthew's	St. Thomas'	Park	St. Luke's	St. Mark's	St. Andrew's		
	Under 1	1 to 5	5 to 15	15 to 25	25 to 65	65 and upwards																													
Small-pox .....	4	...	...	...	4	...	...	...	...	2	...	...	...	...	...	...	...	2	...	...	...	...	...	...	2	...	...	...	...	...	...	2	...	...	
Cholera .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Diphtheria .....	157	3	49	72	19	14	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Membranous Group .....	132	2	1	11	10	104	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Erysipelas .....	1578	17	505	928	108	20	...	127	174	145	94	123	171	91	62	77	139	97	97	106	75	94	132	101	76	59	126	76	53	35	73	62	65	52	
Scarlet Fever .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Typhus Fever .....	90	...	6	33	14	37	...	2	7	3	6	4	11	5	10	11	9	4	6	3	9	2	3	3	4	3	6	3	8	7	2	2	6	1	
Enteric Fever .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Relapsing Fever .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Continued Fever .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Puerperal Fever .....	24	...	...	...	5	19	...	1	3	1	...	2	1	3	1	2	1	3	3	...	3	...	...	...	...	...	...	...	...	...	...	...	...		
Plague .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
TOTALS .....	1985	22	561	1044	156	198	4	145	214	178	123	147	203	115	96	113	171	121	129	125	106	96	135	107	80	64	132	79	62	67	97	75	70	66	58

## MEASLES.

1,003 cases of Measles were reported from the schools during the year, compared with 2,440 cases during 1904, 998 cases during 1903, and 1,195 cases during 1902.

The reported Cases and Deaths occurred in the months in the following numbers:—

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
Cases .....	14	15	11	16	29	35	28	5	71	238	385	156
Deaths ..	1	2	0	0	1	0	0	0	0	5	16	17

In 1896 there were 3 cases notified to each death.

„ 1897	„	13	„	„
„ 1898	„	9	„	„
„ 1899	„	17	„	„
„ 1900	„	24	„	„
„ 1901	„	15	„	„
„ 1902	„	15	„	„
„ 1903	„	18	„	„
„ 1904	„	40	„	„
„ 1905	„	24	„	„

## DEATHS IN AGE PERIODS.

0 to 1	1 to 5	5 to 10	10 to 15	Total.
9	30	3	0	42

From the above figures it will, therefore, be seen that Measles assumed epidemic form in October, 1905, which continued during the remainder of the year.

224 cases were reported during the first nine months, compared with 779 cases during the last three months of the year.

The death-rate from Measles was lower than it has been since 1899.

33 out of the 42 deaths from this disease occurred during the months of November and December.

The number of cases notified to each death was 16 less than during 1904.

The greatest number of deaths occurred between the ages of 1 and 5 years, namely, 30 out of 42 deaths, or 71.4 per cent.

The school teachers have assisted me very considerably by notifying cases of Measles.

The usual preventive measures, previously described in a special report, were adopted throughout the year.

Inquiries were also made as to the number of Measles cases which were attended by medical men. 660 houses were visited by my Inspectors so that cases of this diseases could be investigated. It was found that 389 were attended by a medical man, or 58.9 per cent. The remaining 271 had no medical attendant.

The following Schools were closed during 1905 on account of Measles :—

NAME OF SCHOOL.	DATE CLOSED.	PERIOD.
Witton Infants' .....	July 4th ..	Until July 31st
St. Peter's R. C. Infants' .....	Oct. 4th ..	„ Oct. 30th
St. Andrew's Infants'... ..	„ 5th ..	„ „ 30th
Moss Street Infants' .....	„ 17th ..	„ Nov. 13th
Mill Hill Council Infants' .....	„ 20th ..	„ „ 20th
St. Barnabas' Infants' .....	„ 23rd ..	„ „ 20th
St. John's Infants' .....	„ 24th... ..	„ „ 20th
St. Luke's Infants' .....	„ 25th... ..	„ „ 20th
Emmanuel Infants'... ..	„ 25th ..	„ „ 20th
St. Stephen's Infants' .....	„ 25th... ..	„ „ 20th
Holy Trinity Infants' .....	„ 25th ..	„ „ 20th

NAME OF SCHOOL.	DATE CLOSED.	PERIOD
St. Albans' Infants' .....	„ 27th ..	Until Nov. 27th
Audley Range Infants' .....	„ 27th ..	„ 27th
Norfolk Street Infants' .....	„ 31st ..	„ 27th
St. Michael's Infants, Union Buildings .....	Nov. 2nd ..	Dec. 4th
Cedar Street Infants' .....	„ 6th ...	„ 4th
St. Bartholmew's Infants' .....	„ 9th ...	„ 11th
Christ Church Infants' .....	„ 13th...	„ 11th
Parish Higher Grade Infants' ..	„ 17th ..	„ 18th
St. Michael's Infants, Whalley New Road ... ..	„ 21st ..	Until after Christ- mas Holidays
St. Silas's Infants' .....	„ 21st ..	„
St. Mary's R. C. Infants .....	Dec. 4th ...	„
St. Paul's Infants .....	„ 5th ...	„
Christ Church Infants .....	„ 11th...	„
St. Bartholomew's Infants ...	„ 12th...	„
Four Lanes End .....	„ 11th...	„
Cedar Street Infants .....	„ 12th...	„
Parish Higher Grade Infants' ..	„ 18th...	„
Convent Higher Grade .....	„ 20th...	„

DEATHS AND DEATH RATES FROM MEASLES  
1871—1905.

TABLE XXII.

Year	Total Deaths	Death Rate	Year	Total Deaths	Death Rate
1871	61	0·8	1889	188	1·6
1872	31	0·3	1890	15	0·1
1873	119	1·4	1891	173	1·4
1874	142	1·7	1892	8	0·06
1875	29	0·3	1893	140	1·1
1876	167	1·9	1894	13	0·01
1877	48	0·5	1895	324	2·5
1878	25	0·2	1896	36	0·2
1879	37	0·3	1897	143	1·0
1880	74	0·7	1898	50	0·38
1881	9	0·08	1899	40	0·29
1882	167	1·5	1900	76	0·55
1883	1	0·009	1901	94	0·72
1884	92	0·8	1902	77	0·58
1885	1	0·009	1903	53	0·40
1886	195	1·7	1904	60	0·45
1887	76	0·6	1905	42	0·31
1888	117	1·0			



## CHICKENPOX.

Chickenpox was made a compulsorily notifiable disease from October 16th, 1904, to April 16th, 1905, and this period was extended until November 9th, 1905, in connection with preventive measures against Smallpox.

518 cases were reported altogether during the year—290 by school teachers and 228 by medical men.

St. Gabriel's School was closed on December 4th until after the Christmas holidays on account of an epidemic of Chickenpox.

The following are the numbers of cases of this disease reported each month by medical men and school teachers respectively.

### Medical men :—

Jan.	Feb.	March	April	May	June
31	27	26	23	31	28
July	Aug.	Sept.	Oct.	Nov.	Dec.
26	11	14	11	0	0

### School teachers :—

Jan.	Feb.	March	April	May	June
26	33	80	8	33	23
July	Aug.	Sept.	Oct.	Nov.	Dec.
35	0	7	27	10	8

Inquiries were made at the infected houses by the District Inspectors.

## SCARLET FEVER.

The epidemic of Scarlet Fever which began in October, 1904, has continued throughout the year 1905, causing a considerable amount of labour and anxiety in the Health Department.

The following particulars are a full description of the incidence, mortality, distribution, and prevention of Scarlet Fever during 1905.

The following were the Cases and Deaths, in age periods:—

Cases (1,578) ...	17	505	682	246	75	33	11	9
Deaths (76) ...	5	46	17	5	2	0	0	1

These figures show:—

- I. That a larger amount of Scarlet Fever occurred below the age of one year than is usually the case, and that the case-mortality per cent. was also high at this age-period, namely, 29.4.
- II. That it was most prevalent between the ages of 1 and 5, and 5 and 10 years (1,187 cases out of 1,578, or 75.2 per cent.). This is usually the case with Scarlet Fever.
- III. That also between the two last-named age-periods the greatest number of deaths occurred (63 deaths out of a total number of 76 deaths from Scarlet Fever, or 82.8 per cent.
- IV. That there is a diminished incidence and mortality after the age of 15 years.

The following are the Cases, arranged in months and quarters, for 1905, and compared with similar Cases for 1904:—

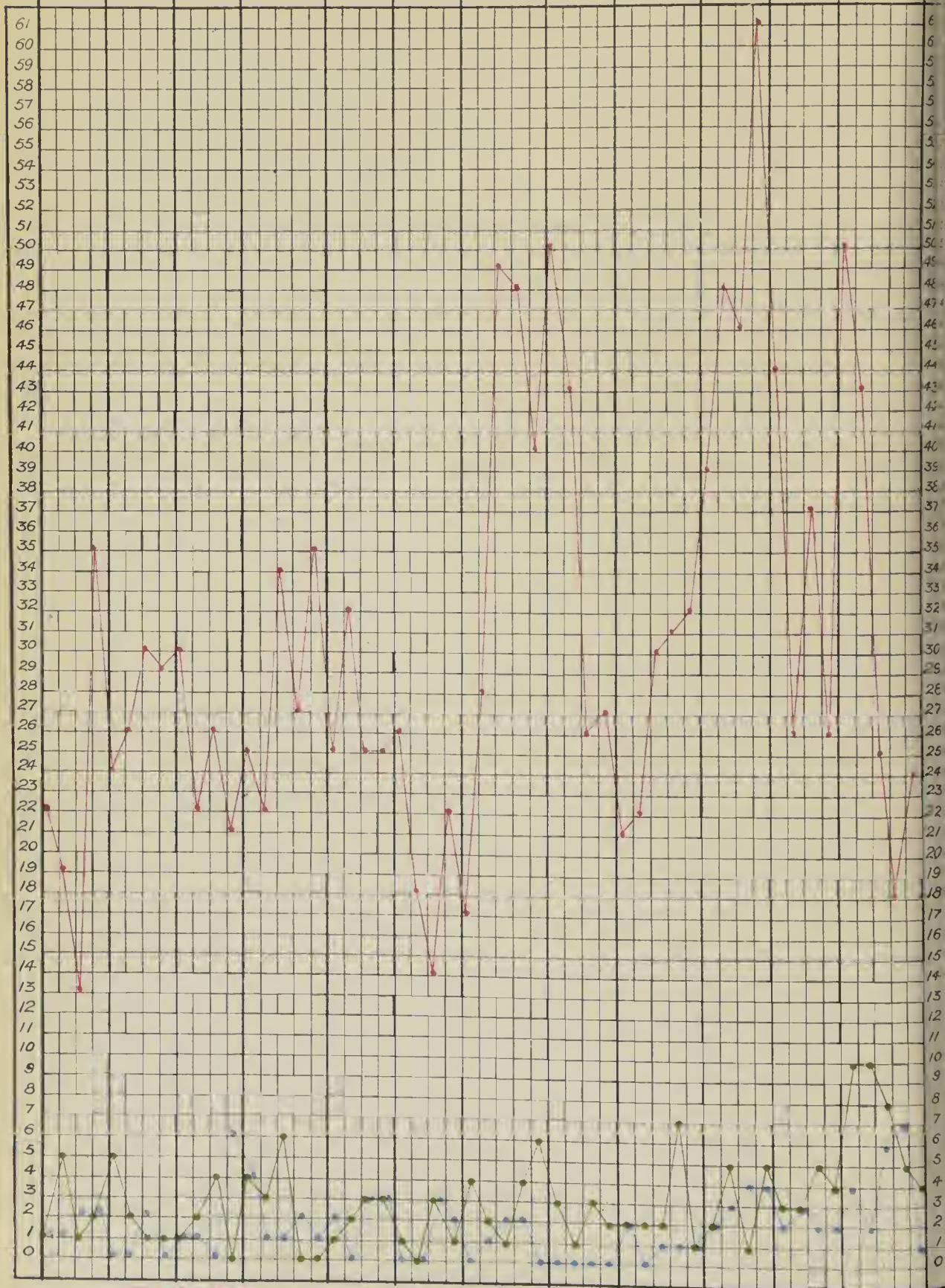
	Jan.	Feb.	March	April	May	June
1905 ...	99	114	106	121	120	81
1904 ...	11	6	11	17	18	18

	July	Aug.	Sept.	Oct.	Nov.	Dec.
1905 ...	184	145	121	208	156	123
1904 ...	11	23	33	93	98	119

	First Quarter.	Second Quarter.	Third Quarter.	Fourth Quarter.
1905 ...	319	322	450	487
1904 ...	28	53	67	310



JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.
7 14 21 28	4 11 18 25	4 11 18 25	1 8 15 22 29	6 13 20 27	3 10 17 24	1 8 15 22 29	5 12 19 26	2 9 16 23 30	7 14 21 28	4 11 18 25	2 9 16 23 30



Red S.F.

Green Diph

Blue T.F.

Thus, the usual autumnal increase of Scarlet Fever was marked in 1905 as in 1904. During the years 1902 and 1903 this seasonal increase had been absent.

1,578 Cases were notified during 1905, compared with 458 in 1904, 339 in 1903, 494 in 1902, and 1,117 in 1901.

The percentage of Cases of this disease removed to the Hospital in the different months was as follows:—

Jan.	Feb.	March	April	May	June
58.5	68.4	69.8	75.2	78.3	82.7
July	Aug.	Sept.	Oct.	Nov.	Dec.
75.5	65.7	80.9	65.3	58.3	63.4

Also the number of Cases in individual houses was as follows:—

In 2 houses there were 6 cases in each house.

..	3	..	..	5	..	..
..	12	..	..	4	..	..
..	52	..	..	3	..	..
..	205	..	..	2	..	..
..	922	..	..	was 1 case.		

6 cases occurred in the Infirmary.

1 case .. Cottage Homes, Hickory Street.

1 .. .. Cottage Homes, Queen's Park.

1 .. .. No. 1 Cottage Homes, Cherry Street.

1 .. .. No. 2 Cottage Homes, Cherry Street.

and 5 cases .. Hospital.

The following Chart shows graphically the weekly notifications of Scarlet Fever during 1905.

The following Table indicates the weekly and daily average number of Notifications of Scarlet Fever throughout the year.



TABLE XXIII.

## Analysis of Cases of Scarlet Fever.

Week Ending	No. of Cases Notified Weekly	Total Cases Notified during Year	Average Cases Notified Weekly	Average Cases Notified Daily	Week Ending	No. of Cases Notified Weekly	Total Cases Notified during Year	Average Cases Notified Weekly	Average Cases Notified Daily
Jany. 7	22	22	22.0	3.1	July 8	28	672	24.8	3.5
„ 14	19	41	20.5	2.9	„ 15	49	721	25.7	3.6
„ 21	13	54	18.0	2.5	„ 22	48	769	26.5	3.7
„ 28	35	89	22.2	3.1	„ 29	40	809	26.9	3.8
Feby. 4	24	113	22.6	3.2	Aug. 5	50	859	27.7	3.9
„ 11	26	139	23.1	3.3	„ 12	43	902	28.1	4.0
„ 18	30	169	24.1	3.4	„ 19	26	928	28.1	4.0
„ 25	29	198	24.7	3.5	„ 26	27	955	28.0	4.0
Mar. 4	30	228	25.3	3.6	Sept. 2	21	976	27.8	3.9
„ 11	22	250	25.0	3.5	„ 9	22	998	27.7	3.5
„ 18	26	276	25.0	3.5	„ 16	30	1028	27.7	3.9
„ 25	21	297	24.7	3.5	„ 23	31	1059	27.8	3.9
April 1	25	322	24.7	3.5	„ 30	32	1091	27.9	3.9
„ 8	22	344	24.5	3.5	Oct. 7	39	1130	28.2	4.0
„ 15	34	378	25.2	3.6	„ 14	48	1178	28.7	4.1
„ 22	27	405	25.3	3.6	„ 21	46	1224	29.1	4.1
„ 29	35	440	25.8	3.6	„ 28	61	1285	29.8	4.2
May 6	35	465	25.8	3.6	Nov. 4	44	1329	30.2	4.3
„ 13	32	497	26.1	3.7	„ 11	20	1355	30.1	4.3
„ 20	25	522	26.1	3.7	„ 18	37	1392	30.2	4.3
„ 27	25	547	26.0	3.7	„ 25	26	1418	30.1	4.3
June 3	26	573	26.0	3.7	Dec. 2	50	1468	30.5	4.3
„ 10	18	591	25.6	3.0	„ 9	43	1511	30.8	4.4
„ 17	14	605	25.2	3.0	„ 16	25	1536	30.7	4.3
„ 24	22	627	25.0	3.5	„ 23	18	1554	30.4	4.3
July 1	17	641	24.7	3.5	„ 30	24	1578	30.3	4.3



## PREVENTIVE MEASURES.

The following preventive measures have been carried out vigorously in the hope of checking the spread of this disease.

Each case was visited as soon as it was notified, and the Inspector filled up an inquiry form, of which a copy is enclosed: marked (A).

Each case had an opportunity of being removed to the Fever Hospital. If consent to removal was granted, the house was disinfected (after removal of the case) by washing the infected room with Chloros, the bedding and the infected clothing were removed to the Fever Hospital in a separate vehicle and were there disinfected by steam, afterwards being returned to the house in another covered vehicle. The children living in the same house were not allowed to return to school for a fortnight. Notifications of the occurrence of this disease were sent from my Office to (1) the Education Department. (2) the Free Library. (3) the Day School, and (4) the Sunday School. A list of instructions as to the spread of the disease was also left at the house on the Inspector's visit. This form is also enclosed, marked (B).

If the case was not removed to the Hospital, all children were excluded from School until after disinfection of the house at the end of the child's illness, and those persons from infected houses who were employed either in mills or elsewhere were instructed to live away from home until the house was disinfected if there was any doubt as to proper isolation. Disinfectants were left at the infected houses weekly, and the Inspectors made periodical visits to see that the cases were being isolated satisfactorily. Frequent visits were paid to the Schools by myself, and large numbers of children examined. Where necessary, Schools were closed and disinfected. Also I have seen large numbers of doubtful cases of Scarlet Fever, in consultation with medical practitioners of the borough, at their request. A copy of a recent letter sent to the medical men of the town, asking for prompt notifications of this disease, is included on the sheet marked (C). Instructions

regarding the signs and symptoms of Infectious Diseases have been printed and fixed in card form in every class-room of each School in the town. Many teachers have also been instructed individually and collectively on this important subject by myself.

### FORM "A."

District :

Name..... Age.....  
 .....Family .....Lodgers  
 Address .....  
 Medical Attendant..... Called in..... Notified.....  
 How Isolated.....  
 If overcrowding state number in each room.....  
 Nursed by.....  
 Other duties of Nurse.....  
 Milk Supply.....  
 Any case of Sore Throat in house within Six Weeks.....  
 .. .. the immediate neighbourhood.....  
 Any Children peeling in house.....  
 Recent visits to other houses.....  
 Visitors from other houses.....  
 Washing sent out..... where to.....  
 Washing taken in..... where from.....  
 Have any Clothes, Books, &c., been brought to the house within  
 14 days of illness, or has patient been away : Where?.....  
 Any Sickness at Laundress or Clothier.....  
 Is hospital agreed to.....  
 If not, instructions given for improving Isolation.....  
 BUSINESS CARRIED ON IN HOUSE.....  
 Probable source of Infection with reasons.....  
 .....  
 .....



## ATTACHED TO FORM "A."

- No. of Inspection..... Date.....  
 No. of House..... street, road, or court.....  
 Owner or Agent.....  
 Address.....
- 1.— No. of Inmates..... No. of Sleeping Rooms.....  
     1. H. .... I. .... B. .... Cub. ft.....  
     2. H. .... I. .... B. .... Cub. ft.....  
     3. H. .... I. .... B. .... Cub. ft.....  
     Last Whitewashed..... If Windows open.....
- 2.— Slop Pipe.....  
     Cellars.....  
     .....  
     .....
3. —Back Road.....  
     .. Yard.....  
     Drains.....
4. —Privy, Ashpit, &c.....
5. —Type of W.C..... Position of Soil Pipe.....  
     Vent'l. S. P.....  
     Discon'tn. S. P.....  
     Pipes joining S. P.....  
     Bath and Lavatory Wastes.....  
     Cistern Overflow.....
6. —Animals kept.....
7. —Nuisances.....
8. —Work recommended to be done.....

## FORM "B."

## COUNTY BOROUGH OF BLACKBURN.

*Rules for Preventing the Spread of Scarlet Fever.*

You are hereby given notice that under the "Public Health Act, 1875," Section 126, any person who

- 1.—While suffering from any dangerous infectious disorder wilfully exposes himself without proper precautions against spreading the said disorder in any street, public place, shop, inn, or public conveyance, or enters any public conveyance without previously notifying to the owner, conductor, or driver thereof that he is so suffering, or
- 2.—Being in charge of any person so suffering, so exposes such sufferer, shall be liable to a penalty not exceeding *Five Pounds*.

Also under the "Infectious Diseases Prevention Act, 1890"—

Section 7. —Every person who shall cease to occupy any house, room, or part of a house in which any person has within six weeks previously been suffering from any infectious disease, without having such house, room, or part of a house, and all articles therein, liable to retain infection, disinfected to the satisfaction of a registered medical practitioner, as testified by a certificate signed by him, or without first giving to the owner of such house, room, or part of a house, notice of the previous existence of such disease, shall be liable to a penalty not exceeding *Ten Pounds*.

Section 13.—Any person who shall knowingly cast or cause or permit to be cast into any ash pit, ash tub, or other receptacle for the deposit of refuse matter, any infec-

tious rubbish without previous disinfection, shall be guilty of an offence under this Act, and liable to a penalty not exceeding *Five Pounds*.

And under the "Infectious Diseases (Notification) Act, 1889,"—

Section 3. —(a) The head of the family to which the patient belongs, and in his default the nearest relatives of the patient present in the building or being in attendance on the patient, and in default of such relatives every person in charge of or in attendance on the patient, and in default of any such person the occupier of the building shall as soon as he becomes aware that the patient is suffering from an infectious disease to which the Act applies, send notice thereof to the Medical Officer of Health of the District.

Also under the "Factory and Workshops Act, 1895,"—

Section 6. —If any occupier of a factory or workshop, or laundry, or of any place from which any work is given out, or any contractor employed by any such occupier, causes or allows wearing apparel to be made, cleaned, or repaired in any dwelling-house or building occupied therewith, whilst any inmate of the dwelling-house is suffering from scarlet fever or smallpox, then, unless he proves that he was not aware of the existence of the illness in the dwelling-house and could not reasonably have been expected to become aware of it, he shall be liable to a fine not exceeding *Ten Pounds*.

The patient must be placed in a room upstairs, out of which all unnecessary furniture has been removed. No one must be allowed in the room except the doctor and the person nursing.

The discharges from the throat and nose should be received on a piece of rag and burnt at once. For this purpose it is well



to have a number of small squares of cotton material about four inches in size by the bedside. Adults may spit into a mug containing disinfectant which afterwards must be emptied into the fire. A handkerchief must never be used for wiping the mouth or nose. Other discharges (vomit, urine and fæces) should be received in a vessel containing disinfectant.

Any linen soiled by discharges must be placed at once into the disinfectant, and all linen must be soaked in disinfectant before it is removed from the room.

Anything used to paint or mop the patient's throat must be burnt immediately after use.

All other articles that have been used by the patient such as forks, spoons, cups, etc., must be placed at once into the disinfectant made according to the directions.

All toys, books, etc., which have been handled by the patient, should be afterwards burnt.

The attendant should wash her hands each time after handling the patient. She should wear a loose cotton gown over her ordinary clothes and a cap over her head while in the sick room, and remove them when leaving the room. The gown should completely cover every part of her clothing and the cap properly cover her hair.

No clothing must be taken in or sent out to wash until the house has been disinfected.

The patient must be kept isolated until the day when the room is to be disinfected. He must then be bathed, removed from the room, and dressed in clean clothes. All infected clothes must be left in the sick room.

All children in the house must be kept away from school, churches, chapels, and other houses until the house has been disinfected, and no neighbours must be allowed to visit the house.

The patient must not return to school until 14 days after the house has been disinfected.

The whole house must be kept thoroughly clean and free from dust by means of scrubbing. All dusting should be done with a moist cloth.

The doctor's attention should be called to any other sore throats in the house, however slight.

In case of death the body should be placed in the coffin, and the coffin screwed down without delay, and the funeral should take place as early as possible. No one should be allowed to come in contact with the body, and no one should, except in case of necessity, enter the house. Information of death should be given to the Health Office at once.

ALFRED GREENWOOD, M.D., D.P.H.,

Medical Officer of Health.

Public Health Office,  
51, Ainsworth Street.



#### FORM "C."

Public Health Department,  
51, Ainsworth Street, Blackburn.

November 27th, 1905.

Dear Sir,

I have been directed by the Health Committee to remind you of the importance of prompt notification of infectious diseases from the medical practitioner to the Medical Officer of Health.

This is especially desirable at the present time, in view of the epidemic of scarlet fever.

The Committee also desire to point out that the Statute requires notifications to be made *forthwith* on the medical practitioner becoming aware that the patient is suffering from an infectious disease to which the Act applies, and to the penalty which is attached to a breach of the provisions of the Section.

I am, yours faithfully,

ALFRED GREENWOOD,

Medical Officer of Health.

To Dr. ....

.....

The following schools were closed on account of scarlet fever during 1905 :—

NAME OF SCHOOL.	DATE CLOSED.	PERIOD.
St. Thomas's Infant School .....	Feb. 24th.	To allow of disinfection
St. Michael's Infant School, Whalley New Road .....	July 12th...	Until after Mid-summer Holidays
Christ Church Girls' School.....	Oct 27th .	To allow of disinfection
Do.	Do.	Nov. 6th...Until Dec. 4th
Christ Church Boys' School.....	„ 21st...	„
St. Barnabas's School .....	Dec. 5th ..	Until after Mid-summer Holidays
Public Higher Grade Boys'... ..	„ 7th ...	„
Sacred Heart .. .. .	„ 20th...	„

The following letter was sent to infected schools:--

Public Health Office,

51, Ainsworth Street, Blackburn.

April 19th, 1905

Mr.....

Correspondent.

..... School,

Blackburn.

Dear Sir,

Owing to the great prevalence of scarlet fever in the town, I think it is extremely advisable that all the desks and floors in your school should be thoroughly washed during the Easter Holidays with disinfectants.

I shall be glad if you will make the necessary arrangements to have this carried out as soon as possible.

I am, yours faithfully,

ALFRED GREENWOOD,

Medical Officer of Health.

Owing to the occurrence of a number of extremely mild cases of scarlet fever, I sent the following letter to the medical practitioners of the Borough:--

Public Health Office,

51, Ainsworth Street, Blackburn.

May 19th, 1905

Dr. ....

Blackburn.

Dear Sir,

You are doubtless aware that scarlet fever is very prevalent in Blackburn at the present time, and I believe that one reason for the spread of this disease is the occurrence of numerous mild, unsuspected cases

May I be allowed to draw your attention to the fact that scarlet fever may occur without a rash, or perhaps with a slight evanescent rash?

I have seen several cases in which the only observed signs or symptoms were a slight rise of temperature and a scarlatinal sore throat, and which subsequently proved to be scarlet fever without doubt.

The occurrence of such cases in households where there is already a marked case of scarlet fever are very suspicious and worthy of continued observation.

I am, yours faithfully,

ALFRED GREENWOOD,

Medical Officer of Health.

During the year many cases of Scarlet Fever resulted from extreme carelessness on the part of parents. Many cases were mild, and escaped observation, and were not medically attended or isolated until considerable mischief had been done.

In other families a case of Scarlet Fever was notified which had a rash, sore throat, etc., and then it was found that another child in the same house was peeling, having suffered from the acute symptoms a week or two previously. Some cases were found at school in a state of desquamation.

In other instances where a rash occurred on a child, the mother decided herself that the illness was measles, no medical man was consulted, and the disease was contracted by others.

It was impossible to prove that the offenders were aware of the nature of the illness, and legal proceedings could not be instituted.

## SCARLET FEVER

TABLE XXIV.

Year.	Cases notified.	Deaths.	Mortality per 1,000 population.
1875	.....	57	·68
1876	.....	21	·24
1877	.....	38	·42
1878	.....	345	3·59
1879	.....	175	1·77
1880	.....	74	·72
1881	103	23	·22
1882	331	47	·44
1883	275	41	·38
1884	211	45	·41
1885	181	23	·20
1886	422	26	·23
1887	1695	157	1·38
1888	829	175	1·51
1889	737	123	1·05
1890	324	32	·26
1891	196	13	·10
1892	176	13	·10
1893	190	4	·03
1894	156	10	·07
1895	224	8	·06
1896	287	9	·06
1897	185	7	·05
1898	347	16	·12
1899	615	14	·10
1900	1476	83	·65
1901	1117	58	·45
1902	494	31	·23
1903	339	13	·09
1904	458	13	·09
1905	1578	76	·57



## ENTERIC FEVER.

The number of Cases notified during the year was 90, compared with 111 in 1904, 97 in 1903, and 127 in 1902.

There were 15 Deaths, compared with 21 in 1904, 15 in 1903, and 23 in 1902.

The Cases and Deaths occurred in the following Age-periods :—

Age-Periods.	Cases Notified.	Deaths.	Case Mortality, per cent.
0-1	0	0	0.0     „
1-2	0	0	0.0     „
2-3	1	0	0.0     „
3-4	3	0	0.0     „
4-5	2	0	0.0     „
5-6	3	0	0.0     „
6-7	6	0	0.0     „
7-8	4	1	25.0     „
8-9	1	1	100.0     „
9-10	2	0	0.0     „
10-15	17	1	5.8     „
15-20	7	1	14.3     „
20-25	7	0	0.0     „
25-35	17	5	29.4     „
35-45	11	2	18.2     „
45 & upwards	9	4	44.4     „
Totals ...	90	15	16.6

Out of the 90 Cases notified during 1905, 14 had eaten mussels, 7 had eaten cockles, 1 had eaten oysters, and 1 had eaten ice-cream, within one month of illness. There was no reason to believe that the consumption of shell-fish had aided in the spread of Enteric Fever during the year.

The districts in which these 90 cases occurred will be seen by reference to the Map at the end of the Report.

The drains at the 79 houses where these 90 cases of Enteric Fever occurred were tested. Defects were found at 33 houses, and steps were taken immediately to remedy the same.

The type of sanitary convenience at the infected houses was as follows:—

Water Closets.		Tub Closets.	Middens.
Fresh Water.	Slop Water.		
36	8	31	4

#### ANALYSIS OF MILK SUPPLIES.

44 milk supplies with 1 case of Enteric in each supply.

8	„	2 cases	„	„
3	„	3	„	„

#### ANALYSIS OF WATER SUPPLIES.

Guide	Fishmoor	Audley
Reservoir.	Reservoir.	Reservoir.
11	64	15

The milk or water supply were not suspected as causing this disease during 1905.

TABLE XXV.

## ENTERIC FEVER IN WARDS AND QUARTERS.

(NOTIFICATIONS).

Wards.	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	Totals
St. Stephen's .....	1	0	0	1	2
Trinity .....	1	2	0	4	7
St. Michael's .....	0	0	1	2	3
St. John's .....	3	1	1	1	6
St. Silas' .....	3	1	0	0	4
St. Paul's .....	1	4	2	4	12
St. Peter's .....	1	1	1	2	5
St. Mary's .....	0	1	0	9	10
St. Matthew's .....	2	2	0	7	11
St. Thomas' .....	3	3	1	2	9
Park .....	1	2	1	0	4
St. Luke's .....	2	1	1	2	6
St. Mark's .....	1	0	1	1	3
St. Andrew's .....	1	0	1	7	9
Totals .....	20	18	10	42	90

The monthly notifications of this disease during 1905 were as follows:—

Jan.	Feb.	March	April	May	June
6	2	12	5	8	5

July	Aug.	Sept.	Oct.	Nov.	Dec.
5	0	5	14	11	17

—Total, 90.

There was thus an autumnal increase in the notifications of Enteric Fever, which so frequently occurs in this disease.

121 specimens of blood were examined during the year for Typhoid bacilli, with the following results:—

Positive.	Negative.	Doubtful.	Incomplete
33	79	4	5

Seven of these 121 specimens could not be tested satisfactorily owing to insufficiency of blood.

The Cases notified in the four quarters for the years 1899 to 1905 were as follows:—

		First Quarter.	Second Quarter.	Third Quarter.	Fourth Quarter.
1899	...	84	26	42	81
1900	...	34	25	27	77
1901	...	35	24	29	43
1902	...	33	26	18	50
1903	...	39	23	16	19
1904	...	26	15	13	57
1905	...	20	18	10	42

Therefore the fourth quarter of the year has generally the heaviest incidence of Enteric Fever.

## ENTERIC FEVER.

TABLE XXVI.

Year	Cases Notified.	Deaths.	Mortality per 1,000 Population.
1880	...	43	·41
1881	289	68	·65
1882	210	50	·47
1883	442	84	·78
1884	268	67	·61
1885	130	28	·25
1886	105	34	·30
1887	153	41	·36
1888	146	39	·33
1889	111	20	·17
1890	121	37	·31
1891	106	24	·19
1892	79	32	·26
1893	161	27	·22
1894	129	32	·26
1895	119	28	·22
1896	143	33	·26
1897	179	35	·28
1898	228	30	·23
1899	233	40	·31
1900	163	30	·23
1901	131	17	·13
1902	127	23	·17
1903	97	15	·11
1904	111	21	·15
1905	90	15	·11

The following Table gives particulars of all the cases of Enteric Fever which have been notified during the year 1905:—

ENTERIC FEVER.—Table XXVII.

No.	Age.	Days ill before notification.	Cases of Typhoid occurring in same house after 1st case.	Closet Accommodation					CONDITION OF			Other Remarks.
				W.C.	Tub.	Ashpit.	Slopewater.	Yard.	Back road.	Drainage.		
1	26	28	...	...	1	...	...	flagged and cobbled	paved	good		
2	11	5	...	1	...	...	...	part flagged	paved	good		
3	27	12	...	1	...	...	...	flagged	none	good		
4	15	9	...	1	...	...	...	flagged	unpaved	good		
5	4	14	...	1	...	...	...	paved and bricked	paved	defective		
6	9½	9	...	1	...	...	...	flagged	paved	good		
7	49	1	...	...	1	...	...	flagged	paved	good		
8	45	23	...	1	...	...	...	paved	paved	good		
9	11½	12	2 more cases notified March 22	1	...	...	...	flagged	paved	defective		
10	14	15	...	...	1	...	...	flagged and cobbled	paved	good		
11	19	7	...	1	...	...	...	flagged	paved	good		
12	10½	3	...	...	...	1	...	flagged	flagged & cobbled	defective		



Closet  
Accommodation

No.	Age.	Days ill before notifi- cation	Cases of Typhoid occurring in same house after 1st case.	W.C.	Tub.	Asphalt.	Slopewater	CONDITION OF			Other Remarks
								Yard.	Back road.	Drainage.	
13	6 $\frac{3}{4}$	11	...	...	1	...	...	flagged and cobble	paved	good	
14	23	11	...	1	...	...	...	flagged	unpvd	defective	
15	37	14	...	...	1	...	...	flagged and cobble	paved	good	
16	3	13	...	1	...	...	...	flagged	paved	defective	
17	28	9	...	...	...	...	1	flagged	paved (good)	defective	
18	28	10	Another case May 15	1	...	...	...	flagged and paved	paved	good	
19	50	21	...	...	1	...	...	flagged and cobble	paved	defective	
20	8	21	...	...	...	...	1	flagged	paved	good	
21	26	35	...	...	1	...	...	flagged and paved	flagged	good	
22	5	6	...	...	...	...	1	flagged	paved	defective	
23	37	17	...	...	1	...	...	flagged and paved	flagged	good	

Closet  
Accommodation

Accommodation				CONDITION OF					Other Remarks.	
No.	Age.	Days ill before notification after 1st case.	Cases of Typhoid occurring in same house after 1st case.	W.C.	Tub.	Asbpt.	Slopwater	Yard.		Back road.
				24	42	22	...	...	1	...
25	18	9	...	...	1	...	...	flagged	flagged	defective
26	57	7	...	...	1	...	...	flagged	unpaved	defective
27	35	7	...	...	1	...	...	flagged	flagged	defective
28	33	18	...	...	1	...	...	flagged and cobbled	paved	good
29	23	22	...	1	...	...	...	flagged and cobbled	paved	good
30	21	6	...	1	...	...	...	flagged	paved	good
31	40	...	...	...	...	...	...	...	...	good
32	54	13	...	...	1	...	...	flagged	paved	defective
33	30	?	...	...	...	...	...	...	...	...
34	19	17	...	1	...	...	...	flagged	cobbled	defective
35	12	35	...	1	...	...	...	concrete	unpaved	good
36	42	10	...	...	...	1	...	flagged and cobbled	paved	good
This case occurred at the Blackburn Union Workhouse										
This case occurred in the Blackburn and East Lancashire Infirmary										

Closet  
Accommodation

No	Age	Days ill before notification after 1st case.	Cases of Typhoid occurring in same house	CONDITION OF					Other Remarks.		
				W.C.	Tub.	Asphlt.	Slopwater	Yard.		Back road.	Drainage.
37	29	5	...	...	...	...	1	flagged	paved	good	
38	15½	13	...	...	...	...	1	flagged and cobbled	paved	good	
39	21	12	...	1	...	...	...	asphalte	unpaved	good	
40	10	4	...	.	1	...	...	flagged	paved	defective	
41	32	21	...	1	...	...	.	flagged and cobbled	paved	good	
42	52	15	...	1	...	...	.	flagged	paved	defective	
43	11¾	9	...	1	...	...	...	flagged	unpaved	good	
44	6½	16	...	1	...	...	...	flagged and paved	paved	good	
45	30	12	..	...	1	...	...	flagged	paved	good	
46	7	10	...	.	1	...	.	flagged and cobbled	paved	good	
47	10	3	...	1	...	...	...	flagged and bricked	cobbled	good	

Closet  
Accommodation

No.	Age	Days ill before notifi- cation	Cases of Typhoid occurring in same house after 1st case.	W.C.	Tub.	Asphlt.	Slopwater	CONDITION OF			Other Remarks.
								Yard.	Back road	Drainage.	
48	28	9	a 2nd case notified on Dec. 1st & a 3rd case on Dec. 13	.	..	1	...	flagged and cobbled	unpaved	good	
49	6½	7	.	...	1	...	...	flagged and cobbled	paved (good)	defective	
50	6	13	...	1	...	...	...	flagged (good)	paved (good)	defective	
51	3	17	...	1	.	.	.	flagged and cobbled	paved	defective	
52	52	7	...	1	...	.	.	flagged	paved	defective	
53	32	6	...	...	...	1	1	flagged	cobbled	good	
54	26	...	...	...	...	...	...	...	...	good	This case occurred at the Blackburn Union Workhouse
55	12¾	11	...	1	...	...	...	flagged	none	defective	
56	27	9	...	...	.	1	1	flagged	paved	good	
57	17	11	another case noti- fied on Oct. 28	...	1	...	...	flagged and cobbled	flagged	defective	

Closet  
Accommodation

No	Age.	Days ill before notifi- cation after 1st case.	Cases of Typhoid occurring in same house after 1st case.	CONDITION OF					Other Remarks.		
				W.C.	Tub.	Asphalt	Stopwater	Yard.		Back Road	Drainage.
58	37	21	...	1	...	...	...	flagged and paved	none	defective	
59	7	2	...	...	1	...	...	flagged and cobbled	paved	defective	
60	32	7	...	...	1	...	...	flagged	paved	defective	
61	44	7	another case noti- fied on Dec. 12	...	...	1	...	flagged and bricked	paved	defective	
62	22	7	...	...	1	...	...	flagged	flagged	defective	
63	45	13	...	1	...	...	...	flagged and cobbled	paved	defective	
64	41	6	...	1	...	...	...	flagged	cobbled	good	
65	11	10	...	...	1	...	...	flagged and cobbled	paved	good	
66	13½	7	...	...	1	...	...	flagged and cobbled	paved	good	
67	42	12	...	1	...	...	...	flagged	paved	good	
68	18	11	..	1	...	...	...	flagged	unpaved	good	

Closet  
Accommodation

No.	Age.	Days ill before notification.	Cases of typhoid occurring in same house after 1st case.	W.C.	Tub.	Asphalt.	Slopewater	CONDITION OF			Other Remarks
								Yard.	Back road.	Drainage.	
69	43	16	...	...	1	...	...	flagged	paved	defective	This case occurred in the Blackburn Union Workhouse
70	7	6	...	1	...	...	...	flagged	paved	good	
71	28	11	...	...	1	...	...	flagged	cobbled	good	
72	7½	16	...	1	...	...	...	flagged	paved	good	
73	45	...	...	...	...	...	...	...	...	good	
74	3¾	13	...	1	...	...	...	flagged	paved	good	
75	12½	7	...	1	...	...	...	partly flagged	cobbled	defective	
76	11½	13	...	...	...	...	1	flagged and cobbled	paved	good	
77	31½	15	...	1	...	...	...	flagged and cobbled	paved	defective	
78	6	10	...	...	1	...	...	flagged and cobbled	paved	good	
79	12	11	...	...	1	...	...	flagged	paved	good	
80	6	11	...	...	1	...	...	flagged and cobbled	paved	defective	
81	2	5	...	...	1	...	...	flagged	cobbled	good	



Closet  
Accommodation

No	Age	Days ill b'fore notifi- c'tion	Cases of Typhoid occurring in same house after 1st case.	W.C.	Tub.	Asphalt.	Slopewater	CONDITION OF			Other Remarks.
								Yard.	Back road.	Drainage.	
82	13	15	...	...	1	...	...	flagged and cobbled	paved	defective	
83	35	15	..	1	...	...	...	flagged	unpaved	defective	

## DIPHTHERIA AND MEMBRANOUS CROUP.

There has been an increase in the incidence of this disease during 1905, as 157 cases were notified, compared with 60 cases in 1904, and 132 cases in 1903

There were 33 deaths out of the 157 cases, or a case mortality of 21 per cent.

The highest incidence and mortality occurred between the ages of 1 and 10 years.

The least incidence and mortality occurred before the age of 1 year and after the age of 35 years.

77 cases occurred amongst school children.

The following are the Cases and Deaths in Age-periods:—

Age Periods in Years.	Notified Cases.	Deaths.
0—1	3	1
1—2	9	4
2—3	16	4
3—4	11	2
4—5	13	4
5—6	21	9
6—7	12	1
7—8	7	3
8—9	7	1
9—10	6	0
10—15	19	3
15—20	13	0
20—25	6	0
25—35	7	0
35 upwards	7	1
	<hr/> 157	<hr/> 33

The following are the Cases, arranged in months, for the years 1904 and 1905:—

1904.	Jan.	Feb.	Mch.	April	May	June	
	12	7	3	5	4	3	
1905.	Jan.	Feb.	Mch.	April	May	June	
	11	7	9	11	10	8	
1904.	July	Aug.	Sept.	Oct.	Nov.	Dec.	Totals
	3	3	1	2	11	6	60
1905.	July	Aug.	Sept.	Oct.	Nov.	Dec.	
	14	10	12	15	17	33	157

And arranged in quarters:—

Year	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
1899	58	25	61	85
1900	92	76	54	112
1901	117	70	55	42
1902	19	17	20	27
1903	56	29	30	17
1904	22	12	7	19
1905	27	29	36	65
Total ...	391	258	263	367

Thus there was a marked increase in the number of cases of Diphtheria during the fourth quarter of 1905.

The 157 cases of Diphtheria occurred at 134 houses, and the following is an analysis of those houses according to the sanitary conditions which existed at the time of notification.

The sanitary conveniences were as follows:—

At 68	houses	there were	fresh water closets.
„ 45	„	„	pail closets.
„ 16	„	„	slop-water closets.
„ 5	„	„	privy middens.

Of the Back Yards at these houses :—

- 78 were flagged.
- 7 were partly flagged.
- 39 were flagged and cobbled
- 4 were cobbled.
- 2 were asphalted.
- 2 were paved
- 1 was flagged and bricked.
- 1 was unflagged.
- In three yards there were structures.

Of the Back Roads and Passages :—

- 87 were paved.
- 10 were cobbled.
- 7 were flagged.
- 15 were unpaved.
- 15 houses had no Back Road or Passage.

At 45 of the houses the Back Yards were out of repair, and notices were served on the owners to remedy the same.

An examination of the milk supplies proves that Diphtheria was not spread by milk during the year.

During the year 345 bacteriological examinations were made of swabs taken from cases of sore throat by medical men. These examinations were conducted by my assistant and myself at the Fever Hospital laboratory, and were appreciated very much by the medical practitioners of the borough.

The results were as follows :—

- 148 gave a positive result ; and
- 196 gave a negative result.

The following analysis of the notified cases of Diphtheria in association with a bacteriological examination of throat swabs is interesting :—

Notified cases from which swabs had been taken, and which, on examination, proved to contain Diphtheria bacilli, 97.

Notified cases from which swabs had been taken, and, on examination, proved *not* to contain Diphtheria bacilli, 4.

Notified cases from which no swab had been taken, 56\*.

In 76 cases a swab was taken before the case was notified, of which 71 were positive and 5 negative.

In 47 cases a swab was taken before the house was disinfected.

In 65 cases no swab was taken before disinfection.

\* This number includes 11 swabs which were taken for purposes of disinfection.

In 45 cases Diphtheria bacilli were found in second and subsequent throat swabs submitted. In one case the bacilli were present in the patient's throat for six months.

During the year 1904, 132 swabs were taken

Out of the 157 cases of Diphtheria notified during 1905, anti-toxin was injected in 93 cases.

This is a most valuable remedy, especially when used during the first three days of the illness, and is supplied free by the Corporation, as it is a useful public health preventive measure.

The following letter has been sent to the medical men of the Borough.

Public Health Office,

51, Ainsworth Street,

Blackburn.

September 11th. 1905

Dr. ....

Blackburn

Dear Sir,

I beg to inform you that at the last meeting of the Health Committee the following resolution was passed:—

“That the Medical Officer of Health be authorised to  
“supply anti-toxin free of charge to those cases of Diph-  
“theria who are unable to pay for the same ”

For this purpose I have arranged that anti-toxin shall be kept at the Health Office, the Fever Hospital, my residence, and each of the Police Stations

Will you kindly send to me a throat swab from each case?

I am.

Yours faithfully,

ALFRED GREENWOOD.

Medical Officer of Health



## DIPHTHERIA.

TABLE XXVIII.

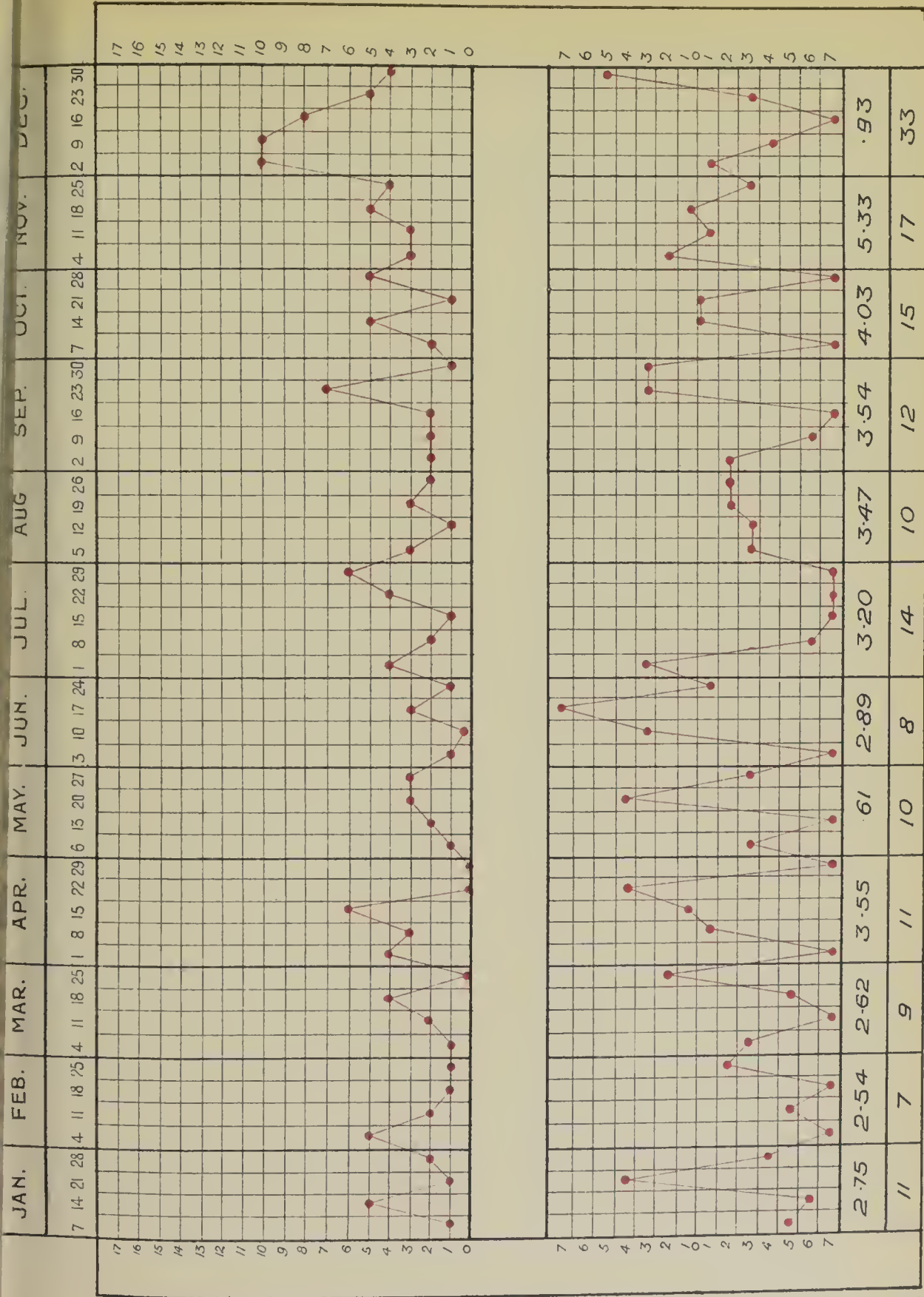
Year.	Cases Notified.	Deaths.	Mortality per 1,000 Population.
1880	.....	...	0'00
1881	.....	...	0'00
1882	.. ...	2	0'01
1883	.. ...	2	0'01
1884	... ..	1	0'009
1885	.....	1	0'009
1886	.....	...	0'00
1887	.....	1	0'008
1888	.....	1	0'008
1889	4	4	0'03
1890	5	4	0'03
1891	1		0'00
1892	3	1	0'008
1893	3	2	0'01
1894	40	14	0'11
1895	31	7	0'05
1896	25	10	0'08
1897	15	5	0'04
1898	77	32	0'25
1899	229	74	0'58
1900	334	91	0'71
1901	284	62	0'48
1902	83	23	0'17
1903	132	26	0'19
1904	60	11	0'08
1905	157	33	0'24

TABLE XXIX.

Cases of Diphtheria Notified in Wards.

WARDS.	1905	1904	1903	1902	1901	1900	1899	1898
St. Stephen's..	9	3	13	4	15	21	16	4
Trinity .....	16	6	10	4	23	33	13	1
St. Michael's..	20	1	3	7	18	22	6	2
St. John's .....	16	5	9	2	20	16	15	1
St. Silas' .....	11	14	32	7	25	11	10	12
St. Paul's .....	11	3	7	6	15	16	18	18
St. Peter's .....	6	4	1	9	9	12	25	2
St. Mary's .....	18	5	2	7	16	29	14	...
St. Matthew's.	13	4	3	7	47	48	42	10
St. Thomas' ...	8	...	16	11	18	23	7	15
Park .....	8	5	9	10	17	30	13	1
St. Luke's .....	5	7	2	2	20	20	23	4
St. Andrew's...	11	...	16	3	21	26	18	5
St. Mark's...	5	3	9	4	20	27	9	1
Totals...	157	60	132	83	284	334	229	76

NOTIFIED CASES  
OF  
DIPHTHERIA.



DIRECTION OF WIND

W.

RAINFALL  
IN EACH MONTH  
CASES OF  
DIPHTHERIA IN EACH MONTH



## DIARRHŒA AND EPIDEMIC ENTERITIS.

The number of deaths from Diarrhœa and Epidemic Enteritis was 93.

The deaths from this disease during 1903 and 1904 were 100 and 125 respectively.

Therefore the year 1905 presents a favourable record in this respect, and the result was probably due in some measure to the absence of great continued heat during the past summer, and a comparative scarcity of flies and dust.

It is well known that, when the reading of the 4ft. thermometer exceeds 56 degrees Fahrenheit, there is an increase in the amount of Diarrhœa. The readings of this thermometer for 1904 will be found under the section "Meteorological Observations," and also on the Chart following this section.

When the 4ft. thermometer registered nearly 56 degrees F., I sent handbills setting forth precautions against Summer Diarrhœa to the poorer parts of the town

As important measures in preventing the occurrence of this disease, I would again urge you to continue the abolition of the old-fashioned privy-middens; the flagging of back yards, which diminishes soil pollution; and the demolition of erections in yards when such are a nuisance.

In this connection, also, the adoption of educational measures in "infant feeding," and "essentials of domestic hygiene," is highly desirable.

A reference to Table VI. will show that 76 of the 93 deaths from Diarrhœa and Epidemic Enteritis occurred below the age of 1 year, or 81.7 per cent. The corresponding percentage for the year 1904 was 78.

I have had inquiries made at houses where deaths from Diarrhoea occurred, according to sanitary conveniences, condition of the back yard, structures in the yard, and the condition of the back passage.

A Table giving the results of these inquiries is appended, and on analysing the same it was found that—

The sanitary conveniences were as follows :—

At 46 houses there were fresh water closets.

.. 7	.. ..	slopwater	..
.. 33	.. ..	pail	..
.. 5	.. ..	privy middens.	

Of the back yards at these houses :—

45 were flagged.

38 .. .. and cobbled.

3 .. cobbled.

2 .. partly flagged.

1 was flagged and paved.

1 .. paved and cobbled.

1 .. flagged and asphalted.

In 4 yards there were structures.

Of the back passages :—

52 were paved.

9 .. cobbled.

16 .. flagged.

9 .. unpaved.

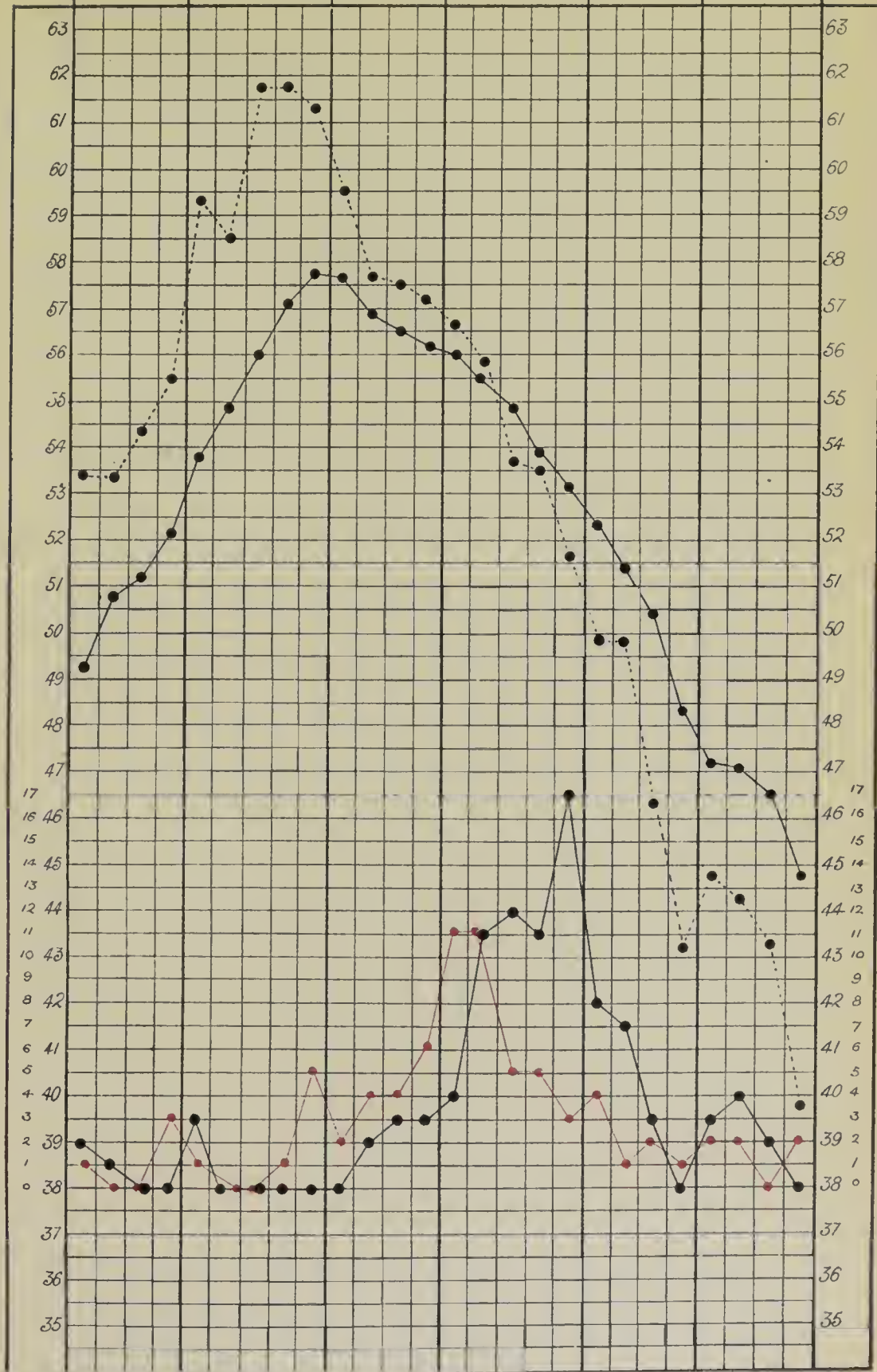
5 had no back road or passage.



JUNE	JULY	AUG.	SEP.	OCT.	NOV.
3 10 17 24	1 8 15 22 29	5 12 19 26	2 9 16 23 30	7 14 21 28	4 11 18 25

FOOT  
METER

FOOT  
METER



RED LINE - DEATHS 1905.  
BLACK LINE .. 1904.



TABLE XXX.

No.	Age.	Closet Acc.	Condition of Yard.	Structures in Yard.	Condition of Back Passage.
1	3 years.	Pail.	Flagged.	None.	Paved.
2	5 m'ths	w.c. Tippler	Flagged.	None.	Paved (bad).
3	8 weeks.	w.c. Hopper.	Flagged.	None.	Paved (bad).
4	8 m'ths.	w.c. Hopper.	Part Flagged & Cob	None.	Paved.
5	2 weeks.	Pail.	Flagged.	None.	Paved.
6	4 m'ths.	Pail.	Part Flagged & Cob	None.	None.
7	4 years.	w.c. Pedestal	Flagged.	None.	Paved.
8	4 m'ths.	Pail.	Flagged.	None.	Cobbled.
9	7 m'ths.	w.c. Pedestal	Flagged.	None.	Paved (bad).
10	7 m'ths.	w.c. Pedestal	Partly Flagged	None.	None.
11	5 m'ths.	w.c. Hopper.	Flagged.	None.	None.
12	16 mths.	Pail.	Flagged.	None.	Paved (bad).
13	8 m'ths.	Pail.	Cobbled.	None.	Paved.
14	4 m'ths.	w.c. Tippler.	Flagged.	None.	Paved (bad).
15	5 m'ths.	w.c. Tippler.	Flagged & Cobbled	None.	Paved
16	79 years.	w.c. Pedestal	Flagged.	None.	Unpaved.
17	13m'ths.	Pail.	Flagged.	None.	Unpaved.
18	5 m'ths.	w.c. Pedestal	Flag'd & Cob. Good	None.	Faved.
19	4 m'ths.	Pail.	Flagged & Cobbled	None.	Paved.
20	5 m'ths.	Privy Midden	Flagged & Paved	None.	Paved.
21	5 m'ths.	Pail.	Flagged & Cobbled	None.	Paved.
22	6 m'ths.	w.c. Pedestal	Well Flagged.	None	Paved.
23	6 m'ths.	w.c. Hopper.	Well Flagged.	None.	Paved.
24	1 m'th.	w.c. Hopper.	Flagged & Cobbled	None.	Paved.
25	16 m'ths.	Privy Midden	Flagged, Good	None.	Paved.
26	2 m'ths	w.c. Pedestal	Flagged & Cobbled	None.	Paved.
27	71 years	w.c. Pedestal	Flagged & Cobbled	None.	Paved.

TABLE XXX. (continued).

No.	Age.	Closet Acc.	Condition of Yard.	Structures in Yard.	Condition of Back Passage.
28	5 years.	Pail.	Flagged & Cobbled	None.	Paved.
29	4 m'ths.	Pail.	Well Flagged.	None.	Paved.
30	1 m'th	Pail.	Flagged & Cobbled	None.	Paved.
31	8 m'ths.	Privy Midden	Flag'd & Asphalted	None.	Paved.
32	2 m'ths	w.c. Duckett	Flagged.	None.	Paved.
33	6 m'ths	Pedestal.	Flagged & Cobbled	None.	None.
34	3 m'ths.	Pail.	Flagged.	None.	Paved.
35	14 days.	Pedestal.	Flagged.	None.	Paved.
36	9 m'ths.	Privy Midden	Flagged & Cobbled	None.	Flag'd Passage
37	6 m'ths.	w.c. Hopper	Flagged.	None.	Flag'd Passage
38	5 m'ths.	Pail.	Flagged.	None.	Flag'd Passage
39	3 m'ths.	Pail.	Flagged & Cobbled	None.	Paved.
40	5 m'ths.	w.c. Pedestal	Flagged & Cobbled	None.	Flag'd Passage
41	5 m'ths.	Pail.	Flagged & Cobbled	None.	Paved.
42	6 m'th .	Pail.	Flagged & Cobbled	None.	Paved.
43	3 m'ths.	Pail.	Flagged & Cobbled	None.	Paved.
44	19 days.	Privy Midden	Flagged & Cobbled	None.	Flag'd Passage
45	4 m'ths.	Pail.	Flagged & Cobbled	2 Pig'n Cotes	Paved.
46	2 m'ths.	w.c. Sh't Hop	Flagged.	None.	Flag'd Passage
47	4 m'ths.	w.c. Pedestal	Flagged & Cobbled	None.	Paved.
48	21 days.	w.c. Pedestal	Flagged & Cobbled	None.	Unpaved.
49	5 m'ths.	w.c. Sh't Hop	Flagged & Cobbled	None.	Cobbled.
50	12 years.	w.c. Sl'pw'ter	Flagged.	None.	Paved.
51	16 days.	w.c. Sl'pw'ter	Flagged.	None.	Unpaved.
52	18 days.	w.c. Pedestal	Flagged.	None.	Flag'd Passage
53	1 year.	w.c. Pedestal	Flagged.	None.	Paved.
54	4 m'ths.	w.c. Hopper	Flagged & Cobbled	None.	Paved.

TABLE XXX. (continued).

No.	Age.	Closet Acc.	Condition of Yard.	Structures in Yard.	Condition of Back Passage.
55	8 m'ths.	w.c. Pedestal	Flagged & Cobbled	None.	Unpaved.
56	4 m'ths.	w.c. Sh't Hop	Flagged.	None.	Paved.
57	5 m'ths.	Pail.	Flagged.	None.	Paved.
58	2 m'ths.	Pail.	Flagged & Cobbled	None.	Flag'd Passage
59	2 m'ths.	w.c. Sh't Hop	Flagged & Cobbled	None.	Flag'd Passage
60	3 m'ths.	Pail.	Flagged & Cobbled.	None.	Paved.
61	62 years	w.c. Sh't Hop	Flagged & Cobbled.	None.	Flag'd Passage
62	6 m'ths.	w.c. Sh't Hop	Flagged.	None.	Unpaved.
63	2 m'ths.	Pail.	Flagged & Cobbled.	None.	Unpaved.
64	4 m'ths.	w.c. Sh't Hop	Flagged.	None.	Cob'l'd Passage
65	1 m'th.	w.c. Pedestal	Flagged.	None.	Paved.
66	7 years.	Pail.	Flagged & Cobbled.	None.	Paved.
67	2 m'ths.	w.c. Sh't Hop	Flagged.	None.	Paved.
68	8 m'ths.	Pail.	Flagged & Cobbled.	None.	Flag'd Passage
69	4 m'ths.	Pail.	Cobbled.	None.	Unpaved.
70	7 m'ths.	w.c. Pedestal	Flagged.	Wood'n Sh'd	Paved.
71	4 m'ths.	w.c. Sh't Hop	Flagged.	None.	Paved.
72	1 m'th.	w.c. Sh't Hop	Flagged.	None.	Flag'd Passage
73	4 m'ths.	Pail.	Flagged.	None.	Cobbled.
74	53 years	Pail.	Flagged & Cobbled.	Pigeon Cote.	Paved.
75	1 m'th.	w.c. Hopper.	Flagged.	None.	Paved.
76	49 years	Pail.	Flagged & Cobbled.	Yes.	Paved.
77	11 m'ths	w.c. Pedestal	Flagged.	None.	Paved.
78	2 m'ths.	w.c. Hopper.	Flagged.	None.	Cobbled.
79	5 m'ths.	w.c. Tippler.	Flagged & Cobbled.	None.	Paved.
80	86 years	w.c. Hopper.	Flagged & Cobbled.	None.	Cobbled (bad)
81	6 m'ths.	w.c. Pedestal	Flagged & Cobbled.	None.	Paved.



TABLE XXX. (continued).

No.	Age.	Closet Acc.	Condition of Yard.	Structures in Yard.	Condition of Back Passage.
82	3 m'ths.	Pail.	Flagged.	None.	Cobbled (bad)
83	6 m'ths.	Pail.	Flagged.	None.	Cobbled.
84	3 m'ths.	Pail.	Paved & Cobbled.	None.	Flagged.
85	9 m'ths.	w.c. Hopper.	Flagged.	None.	Flagged.
86	29 days.	w.c. Pedestal	Flagged.	None.	Paved.
87	2 m'ths.	w.c. Hopper.	Cobbled.	None.	Cobbled (bad)
88	1 m'th.	w.c. Hopper.	Flagged.	None.	None.
89	4 m'ths.	w.c. Hopper.	Flagged & Cobbled.	None.	Flagged.
90	2 m'ths.	w.c. Hopper.	Patr Flagged.	None.	Unpaved.
91	7 m'ths.	Pail.	Flagged.	None.	Flagged.

### SMALLPOX.

Four cases of Smallpox have occurred in Blackburn during 1905.

The particulars of these cases are as follows:—

Case 1.—A. W. G. Male. Age 32. Commercial Traveller. St. Silas's Ward. Was removed to Finnington Hospital suffering from Smallpox on March 9th, 1905. The disease was undoubtedly imported into Blackburn, probably from Burnley. This person had never been vaccinated, and suffered from Smallpox in a severe form. The other inmates of the infected house were at once re-vaccinated and all the clothing, etc., thoroughly disinfected.

Case 2.—E. G. Female. Age 34. Wife of Case 1. Was removed to Finnington Hospital suffering from Smallpox on March 20th, 1905. The disease in this case



was very much modified owing to the successful re-vaccination, which was not performed sufficiently early to prevent the disease. Thorough disinfection was again carried out.

There was no further spread of the disease from these two cases.

During the month of June two more cases of Smallpox occurred as follows:—

Case 3.—S. A. H., female, age 29 years. Weaver. Hamilton Street; mild case.

The source of infection could not be traced.

The patient was removed to Finnington Hospital on June 7th, her home and belongings were disinfected thoroughly, and all contacts were visited and advised to be re-vaccinated.

A house-to-house inquiry for cases of sickness was made in the district.

The Infantile Vaccination scars were as follows:—Three marks having a total area of  $\frac{3}{4}$  sq. in. Re-vaccinated June 8th, unsuccessful.

Case 4.—J. H., male, age 32 years, Carter, Hamilton Street. Husband of Case 3.

The source of infection was Case 3.

This was an extremely mild case, owing to the successful re-vaccination performed on June 17th, but the operation was not performed sufficiently early to prevent the Smallpox in Case 4.

The Infantile Vaccination scars were as follows:—Four marks having a total area of 2 sq. in. Similar preventive measures were again adopted.

The above steps were successful in preventing any further spread of Smallpox.

On January 9th I received a telephonic communication from the Medical Officer of Health for Leeds, giving me a

description of a lodger there who had been in contact with a case of Smallpox in that town, and who had probably come to Blackburn.

The following letter was sent immediately to each Lodging-house in the Borough, but the man was not found.

This is a good example of the value of free inter-communication between Medical Officers of Health on Infectious Diseases.

Public Health Office.

51, Ainsworth Street,

Blackburn.

January 9th. 1905.

Dear Sir,

I beg to inform you that a person of which the following is a description has been in contact with a case of Smallpox. If this man comes to your Lodging-house, kindly communicate with me as early as possible.

Thomas Cidman, age 62, height 5 feet 2 inches, grey hair, grey moustache, dark suit, brown cap, white muffler, laced boots, drags left leg, no use in left arm, walks with a stick.

I am,

Yours faithfully,

ALFRED GREENWOOD.

Medical Officer of Health.

Owing to the resemblance between Chickenpox and Smallpox, the former disease was made compulsorily notifiable for a period of six months during 1905.

The following letter was sent to the Medical Practitioners of the Borough.

Public Health Office,

51, Ainsworth Street,

Blackburn,

April 20th. 1905.

Dr.....

Blackburn.

Dear Sir,

I beg to inform you that Chickenpox has been declared a Compulsorily Notifiable Disease by the Health Committee, from May 4th, 1905. until November 9th, 1905.

Will you, therefore, please notify to me all cases of Chickenpox occurring in your practice until the latter date?

I am,

Yours faithfully,

ALFRED GREENWOOD,

Medical Officer of Health.

## SMALLPOX.

TABLE XXXI.

Year.	Cases Notified.	Deaths.	Mortality per 1,000 Population.
1880	0	0	·00
1881	28	5	·04
1882	4	0	·00
1883	4	0	·00
1884	0	0	·00
1885	4	0	·00
1886	28	2	·01
1887	42	4	·03
1888	98	10	·08
1889	0	0	·00
1890	0	0	·00
1891	0	0	·00
1892	4	2	·01
1893	79	8	·06
1894	13	0	·00
1895	0	0	·00
1896	0	0	·00
1897	0	0	·00
1898	0	0	·00
1899	0	0	·00
1900	13	2	·01
1901	0	0	·00
1902	49	2	·01
1903	92	3	·02
1904	2	0	·00
1905	4	0	·00

## VACCINATION.

By the Expiring Laws Continuance Act, 1905 (5 Edw. 7; chap. 21), the Vaccination Act, 1898, which otherwise would have expired on 31st December, 1905, is continued in force until 31st December, 1906.

## VACCINATION — For 1890—1905.

TABLE XXXII.

Year	Births.	Successfully Vaccinated	Died Unvaccinated	Insusceptible	Postponed	Exempted	Removed out of District and traced.	Removed and not traced.
1890	4015	3220	404	6	91	...	...	187
1891	4085	2852	522	7	131	...	...	412
1892	3883	2869	492	13	50	...	...	297
1893	3822	2674	560	23	94	...	...	471
1894	3621	2589	340	21	96	...	...	505
1895	3899	2612	543	20	115	...	...	609
1896	3552	2587	495	59	113	...	...	288
1897	3629	2301	451	17	137	...	...	723
1898	3662	2459	655	3	153	164	...	228
1899	3643	2616	519	9	191	139	51	118
1900	3438	2687	416	8	52	120	56	47
1901	3386	2640	408	18	76	158	19	40
1902	3357	2635	329	13	68	128	20	56
1903	3304	2330	304	20	53	117	24	28
1904	3100	2181	353	12	63	120	13	50
1905	3193	2274	290	17	39	190	7	29

It should be noted that children born at the end of 1905 need not be vaccinated until June, 1906, owing to the exemption for the first six months of life.

## VACCINATION RETURNS FOR THE YEAR 1905.

TABLE XXXIII.

MONTH.	Successfully Vaccinated.	Died Unvaccinated.	Exemptions.	Postponements.	Removals not traced.	Insusceptible.	Removed and traced out of district.	Unaccounted for not Vaccinated.	Successfully Vaccinated each Quarter.
January ..	227	26	12	...	8	...	1	1	662
February	186	19	5	4	4	2	1	1	
March... ..	249	28	13	5	...	1	...	...	
April .....	184	22	16	2	1	2	1	2	679
May.....	263	24	23	6	6	2	1	1	
June .....	232	30	16	6	3	4	...	4	
July .....	230	31	23	2	1	4	...	1	626
August ...	221	32	12	6	4	2	2	6	
September	175	18	26	4	1	...	1	7	
October ...	179	23	21	3	1	...	...	37	307
November	98	22	15	1	...	...	...	94	
December	30	15	8	...	...	...	...	193	
Totals ...	2274	290	190	39	29	17	7	347	2274



## PUERPERAL FEVER.

There were 24 notifications of Puerperal Fever, including 10 deaths during 1905, compared with 7 cases, including 3 deaths in 1904, and 11 cases, including 5 deaths, in 1903.

After each case of Puerperal Fever, I have interviewed the midwife who has been in attendance, and the necessary steps were taken regarding disinfection, burning of dangerous articles, instructions as to rigorous cleanliness, etc.

I am hoping that I shall be able to visit the home of each midwife, and inspect the case books and Obstetric bags during this year.

One effect of the recent Midwives Act in Blackburn has been that a certain number of women have ceased to attend confinement cases, owing to the fact that they have not obtained a place on the Roll

The following is a list of midwives residing in Blackburn registered by the Central Midwives' Board

This list has been brought up to date for the year 1905

TABLE XXXIV.

No.	Name.	Address.	Date of Enrolment.	Qualification.
9840	Almond, Hannah .....	Union Infirmary .....	1904—Nov. 24	L.O.S., May 27, 1904
3335	Alston, Mary Jane .....	4 Broom Street, Blackburn	" March 24	In Practice July, 1901
3817	Anderson, Rose.....	Nurses' Home, West Park Road .....	" April 28	Glasgow Maternity Hospital, Jan. 14, 1904
5824	Andrews, Mary.....	45 Coddington Street .....	" June 30	In Practice July, 1901
5625	Ashcroft, Frances .....	24 Burnley Road .....	" June 30	Ditto
8037	Atherton, Esther Ann .....	4 Intack Crescent.....	" Sept. 29	Ditto
5626	Backhouse, Ruth .....	11 Queen's Road .....	" June 30	Ditto
21281	Barton, Elizabeth .....	29 Wellington Street .....	1905—April 27	L.O.S., July 11, 1899
5627	Baylie, Margaret .....	31 Shorrock Lane .....	1904—June 30	In Practice July, 1901
5788	Beard, Mary .....	34 Camden Street... ..	" June 30	Ditto
5621	Bispham, Margaret .....	105 Peter Street .....	" June 30	L.O.S., October 10, 1898
3810	Bradley, Sarah Jane .....	44 Saunder's Road .....	" April 28	L.O.S., November 26, 1903
21335	Bridge, Sarah .....	Infirmary.....	1905—April 27	L.O.S., February 23, 1905
21403	Clayton, Lydia .....	185 Harwood Street.....	" April 27	L.O.S., February 24, 1905
6235	Collins, Rose Ann .....	26 Lord Derby Street .....	1904—July 21	In Practice July, 1901

TABLE XXXIV.--continued.

No.	Name.	Address.	Date of Enrolment.	Qualification.
5628	Conway, Mary Ann .....	8 Commercial Street ... ..	1904 - June 30	In Practice July, 1901
10257	Corrigan, Mary Ann .. .. .	11 Henrietta Street .....	" Nov. 24	Ditto
5629	Croasdale, Elizabeth Alice .. .	32 Woodbine Road ... ..	" June 30	Ditto
7508	Cumming, Agnes .....	2 Spring View .....	" Sept. 29	Ditto
8976	Donnelly, Mary.....	Woodfield .. .. .	" Oct. 27	Ditto
18468	Dolan, Annie .....	43 Daisy Street .....	1905—April 27	Ditto
10981	Dunwoody, Elizabeth .....	Union Infirmary .. .. .	1904—Dec. 22	Ditto
6953	Elsworth, Mary Ann .....	81 Nab Lane .....	" Sept. 29	Ditto
6954	Foxcroft, Alice .....	123 Revidge Road .....	" Sept. 29	Ditto
6523	Gabbutt, Mary .....	100 Leamington Road.....	" July 21	Ditto
6524	Galloway, Selina Ann .....	72 Duke's Brow.....	" July 21	Ditto
5826	Gee, Margaret .....	79 Pendle Street .....	" June 30	Ditto
3690	Gleeson, Annie .....	39 Great Bolton Street .. .	" April 28	L.O.S., July 10, 1900
11058	Gordon, Ellen .....	10 Taylor Street .....	" Dec. 22	In Practice July, 1901
6525	Green, Margaret .....	102 London Road .....	" July 21	Ditto

TABLE XXXIV.—continued.

No.	Name.	Address.	Date of Enrolment.	Qualification.
10293	Hacking, Annie .....	14 Brothers Street .....	1904—Nov. 24	In Practice July, 1901
5633	Haden, Elizabeth .....	100 Preston New Road .....	" June 30	Ditto
6070	Hargreaves, Mary .....	6 Plymouth Street .....	" June 30	Ditto
6624	Haworth, Mary .....	71 Haslingden Road .....	" July 21	Ditto
3593	Hennan, Maria Hope .....	49a Eanam .....	" April 28	Ditto
5827	Hoghton, Martha Jane .....	41 Charlotte Street .....	" June 30	Ditto
6005	Hopwood, Susannah .....	73 Galligreaves Street .....	" July 21	Ditto
7760	Houghton, Mary .....	67 Baines Street .....	" Sept. 29	Ditto
5828	Howson, Ellen .....	27 Roebuck Street .....	" June 30	Ditto
6526	Hummer, Elizabeth .....	89 Balaclava Street .....	" July 21	Ditto
21678	Isherwood, Ellen .....	Union Infirmary .....	1905—April 27	L.O.S., Feb. 23, 1905
7360	Johnson, Edith Mary .....	24 Bicknell Street .....	1904—Sept. 29	Glasgow Maternity Hospital, Aug. 1, 1904
9935	Johnston, Nancy .....	Union Infirmary .....	" Nov. 24	L.O.S., May 27, 1904
6071	Kay, Mary Ann .....	4 Coddington Street .....	" June 30	In Practice July, 1901
5829	Latham, Elizabeth .....	40 Pickup Street .....	" June 30	Ditto

TABLE XXXIV. — continued.

No.	Name.	Address.	Date of Enrollment.	Qualification.
5630	Leigh, Elizabeth .....	91 London Road .....	1904 - June 30	In Practice July, 1901
3819	Lightbown, Margaret .....	94 Livesey Branch Road ...	" April 28	St. Mary's Hospital, Manchester, March, 1899
6608	Livesey, Jane Ann .....	34 Ice Street .....	" July 21	In Practice July, 1901
16641	Lonsdale, Hannah ...	18 Mayfield Terrace .....	1905 - Mar. 23	Ditto
16411	McCall, Elizabeth Alice.....	122 London Road .....	" Mar. 23	Ditto
6527	Moore, Alice .....	84 Derby Street.....	" July 21	Ditto
5934	Morris, Elizabeth .....	528 Bolton Road .....	" June 30	Ditto
5650	Newton, Mary .....	80 Whalley New Road .....	" June 30	L.O.S., February 26, 1904
6609	Nixon, Mary Alice .....	37 Goldhey Street .....	" July 21	In Practice July, 1901
1295	Noble, Laura Agnes.....	District Nurses' Home .....	" Jan. 28	L.O.S., July 11, 1898
8593	Ormerod, Nancy .....	10 Hickory Street	" Oct. 27	In Practice July, 1901
7210	Parker, Catherine Ann .....	482 Whalley New Road .....	" Sept. 29	Ditto
6237	Parkinson, Mary Ann .....	5 Abbott Street .....	" July 21	Ditto
7209	Peacock, Sarah Elizabeth .....	15 Progress Street .....	" Sept. 29	Ditto

TABLE XXXIV.—continued.

No.	Name.	Address.	Date of Enrolment.	Qualification.
6072	Pearson, Caroline.....	111 Boosall Street.....	1904—June 30	In Practice, July 1901
6073	Pomfret, Jane ..	58 Hollin Bridge Street .....	" June 30	Ditto
13691	Price, Florence Nelly ...	5 Wellington Street .....	1905—Feb. 23	L.O.S., July 21, 1897
5830	Riding, Rebecca .....	63 St. Thomas Street .....	1904—June 30	In Practice July, 1901
5935	Rimmer, Ellen ...	76 Harwood Street .....	" June 30	Ditto
6830	Scott, Helen .....	46 Northgate ..	" Sept. 29	Ditto
5936	Sharp, Helen ..	5 Lodge Street .....	" June 30	Ditto
7060	Shaw, Alice .....	6 Polly Street.....	" Sept. 29	Ditto
6228	Sherwin, Harriet .....	18 Johnston Street ..	" July 21	Ditto
5938	Speight, Betsy Jane .....	16 Lord Byron Street .....	" June 30	Ditto
6074	Twist, Mary .....	116 Pres'on New Road ..	" June 30	Ditto
8320	Walmsley, Susannah .....	2a Cob Street .....	" Oct. 27	Ditto
6075	Watson, Ellen .....	31 Pleasington Street ..	" June 30	Ditto
6076	Whalley, Jane Ellen .....	2 Bedford Street ..	" June 30	Ditto
6238	Whittaker, Hannah .....	33 Clinton Street .....	" July 21	Ditto



TABLE XXXIV.—continued.

No.	Name.	Address.	Date of Enrolment.	Qualification.
6239	Wilson, Annie .....	40 Inkerman Street .....	1904—July 21	In Practice July, 1901.
5631	Wrigley, Mary .....	6 East Street .....	,, June 30	Ditto
5939	Yates, Mary Alice .....	68 Newton Street .....	, June 30	Ditto

Table XXXV. —DEATHS IN CHILDREN, DURING THE LAST TEN YEARS.

	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905
Puerperal Fever .....	5	7	2	8	10	9	11	5	3	10
Pyæmia Septicæmia .....	7	3	2	..	...	4	5	..	...	...
	12	10	4	8	10	13	16	5	3	10
Placenta Prævia—Flooding.	3	...	1	2	1	4	4	2	4	3
Parturition .....	...	2	...	7	1	...	..	...	...	...
Puerperal Convulsions ..	...	...	...	...	1	5	4	4	...	2
Abortion—Miscariage ..	3	1	...	1	..	1	3	2	2	2
Other Accidents of Child- birth .....	19	8	10	2	1	2	2	12	6	11
Puerperal Mania.....	...	...	...	...	...	...	1	...	1	..
Puerperal Thrombosis .....	...	...	...	...	...	...	2	...	...	2
	25	11	11	12	4	12	16	20	13	20
Number of Puerperal cases notified .....	16	8	7	13	14	11	18	11	7	24

## ERYSIPELAS.

During 1905, 132 cases of Erysipelas were notified, and 2 deaths registered, giving a case mortality of 1.5 per cent. During 1904, 81 cases were notified, and 3 deaths registered.

Thus there has been an increase in the amount of Erysipelas during 1905

## WHOOPING COUGH.

There were 11 deaths from Whooping Cough, compared with 96 deaths in 1904, and 14 deaths in 1903. They occurred in the age-periods in the following numbers:-

0-1	1-5	5-10	10 and upwards.
6	5	0	0

Thus there has been a very marked diminution in the prevalence and mortality of Whooping Cough during 1905

No Schools were closed on account of this disease during the year.

## INFLUENZA, BRONCHITIS, AND PNEUMONIA.

The number of deaths from Bronchitis and Pneumonia was 404, compared with 489 in 1904 and 440 in 1903; and the deaths from Influenza were 20, compared with 17 in 1904 and 27 in 1903.

Deaths from Bronchitis and Pneumonia in months:-

Jan.	Feb.	March	April	May	June
58	42	43	30	27	31
July	Aug.	Sept.	Oct.	Nov.	Dec.
7	18	25	27	43	53

These diseases, therefore, had a greater fatality during the winter than the summer months.

## ALCOHOLISM.

During 1905, six deaths were directly caused by Alcoholism and Delirium Tremens. Of these 5 were males and 1 was a female.

During 1905, 14 deaths were caused by Cirrhosis of the Liver, which is a disease frequently associated with Alcoholism

The following is an analysis of the deaths in sex and age-periods :--

Age.	Males.	Females.	Total.
15-25 .....	0 .....	1 .....	1
25-35 .....	0 .....	0 .....	0
35-45 .....	3 .....	0 .....	3
45-55 .....	5 .....	2 .....	7
55-60 .....	1 .....	2 .....	3
60-65 .....	1 .....	2 .....	3
65-75 .....	3 .....	0 .....	3
75 and upwards	0 ...	0 .....	0
	—	—	—
	13	7	20

## CANCER.

There were 113 deaths from Cancer during the year, compared with 107 in 1904.

The increase in the deaths from Cancer was greatest amongst females, but there were 7 less deaths amongst the females in 1905 than in 1904. There were more deaths from Cancer amongst males during 1905 than have been recorded previously in Blackburn. The increase has been most marked in Cancer of the Stomach. How far this is associated with the diet it is impossible to say. As a cause of mortality, Cancer appears to be increasing, as is shown in Table XXXIV.

An analysis of the deaths as to the kind of Cancer shows that:—

108	were	returned	simply	as	Cancer	or	Malignant	Disease.
2	..	..	..	..	Sarcoma.			
2	..	..	..	..	Epithelioma			
1	was	..	..	..	Scirrhus.			

On examining the Death Returns for 1905 it was found that Cancer affected the following parts of the body:—

Stomach,	24
Liver,	19.
Uterus,	17.
Breast,	13
Rectum,	8
Œsophagus,	6
Colon and Sigmoid,	6.
Pharynx, Lower Jaw, and Sub-maxillary Gland,	4.
Larynx,	3.
Bladder,	3.
Intestine and Omentum,	3
Lung,	2.
Mesenteric Gland,	1.
Groin,	1.
Neck,	1.
Tongue,	1.
Place not stated,	1.

TABLE XXXVI.

DEATHS FROM CANCER—1889-1905

Year.	Male.	Female.	Total.
1889 .....	20 .....	32 .....	52
1890 .....	14 .....	24 .....	38
1891 .....	19 .....	34 .....	53
1892 .....	14 .....	38 .....	52
1893 .....	23 .....	37 .....	60
1894 .....	23 .....	34 .....	57
1895 .....	33 .....	48 .....	81
1896 .....	25 .....	56 .....	81
1897 .....	28 .....	44 .....	72
1898 .....	36 .....	58 .....	94
1899 .....	28 .....	52 .....	80
1900 .....	33 .....	65 .....	98
1901 .....	27 .....	64 .....	91
1902 .....	40 .....	51 .....	91
1903 .....	35 .....	57 .....	92
1904 .....	33 .....	74 .....	107
1905 .....	46 .....	67 .....	113

## CEREBRO-SPINAL FEVER.

Owing to an epidemic of this disease in New York during 1905, the Local Government Board issued a Circular Letter and a Memorandum to Sanitary Authorities, copies of which are given below.

Also a copy of a letter is given which I sent to Medical Practitioners in the Borough, relating to this disease

Cerebro-Spinal Fever appears to be due to infection by a germ, and is a very fatal disease. It may occur in epidemic form, and as isolated cases.

During 1905, 29 cases of this disease occurred amongst adults and children at Irthlingborough (Northamptonshire). Some of these appeared to occur as the result of personal contact with previous sufferers, but other cases occurred which could not be explained in this way.



Local Government Board,

Whitehall, S.W

24th August, 1905

Sir.

I am directed by the Local Government Board to state that they have reason to believe that the fact that Cerebro-Spinal Fever has recently been somewhat extensively prevalent in Central Europe and in America has given rise in some quarters to a doubt whether the disease in question may not have newly extended to or have been developing in this country.

The Board think it desirable, therefore, to state that, so far as they have been able to ascertain, there is no ground for such apprehension. It appears, in fact, to be probable that Cerebro-Spinal Fever is at the present time not more prevalent in this country than it has been from time to time during the last quarter of a century.

Nevertheless, the Board consider that Sanitary Authorities should be on the alert to detect the presence of the disease in their districts; or to satisfy themselves as to its absence; and to this end the Board have issued a Memorandum, which has been prepared by their Medical Officer, dealing generally with the characteristic symptoms of the disease, and especially with its minor and anomalous manifestations. Copies of this Memorandum are enclosed, and I am to request that one of the copies, together with a copy of this Circular, may be given to the Medical Officer of Health for his information.

In the event of the discovery in any district of groups of cases of illness which might possibly be of the nature of Cerebro-Spinal Fever, it would, of course, be important that the facts should be made the subject of a special report to the Sanitary Authority by the Medical Officer of Health for the district, and that a copy of such report should at the time

be forwarded to the Board. Should such a report be received, the Board would be prepared to render the Sanitary Authority such advice or assistance as, in the circumstances, might appear to be necessary. In the event of the Sanitary Authority desiring, in view of any special circumstances, that cases of Cerebro-Spinal Fever should be made compulsorily notifiable in their district, the Board would be prepared to consider an application for their approval to a resolution of the Authority extending the provisions of the Infectious Disease (Notification) Act, 1889, to that disease for a limited period.

I am to add that the enclosed Memorandum has been placed on sale, so that Sanitary Authorities desirous of obtaining further copies, or of distributing copies amongst the medical practitioners in their districts, may be readily able to procure the same. Copies may be obtained, either directly or through any bookseller, from Messrs. Wyman and Sons, Limited, Fetter Lane, Fleet Street, London, E.C.

I am, Sir,

Your obedient Servant,

S. B. PROVIS.

Secretary.

#### MEMORANDUM ON CEREBRO-SPINAL FEVER.

Cerebro-Spinal Fever, known also as Epidemic Cerebro-Spinal Meningitis, Spotted Fever, and by many other less frequently used names, has recently attracted renewed attention in this country by reason of the serious mortality occasioned by disease of this class in New York and in certain localities on the Continent of Europe. Interest in this malady has been further stimulated by the public notice which has been taken of the recent identification of a case

in the neighbourhood of London, and of several cases, four of which terminated fatally, at Irthlingborough in Northamptonshire.

Cerebro-Spinal Fever is not of rare occurrence in the United Kingdom. In the course of the last forty years this malady is known to have been prevalent in a considerable number of different localities in England and Wales, several of these local outbreaks having taken place in recent years. In some instances they have formed the subject of investigation by a Medical Inspector of the Local Government Board, whose report has usually been made public. Occurrences of Cerebro-Spinal Fever have also been observed in Scotland and in Ireland. There is, indeed, as will appear later, reason for belief that this disease is even less uncommon in this country than the foregoing particulars would seem to indicate.

The late Mr. Netten Radcliffe defined Cerebro-Spinal Fever as

“an acute, epidemic disease, characterised by profound disturbance of the central nervous system, indicated at the onset chiefly by shivering, intense headache or vertigo, or both, and persistent vomiting: subsequently by delirium, often violent, alternating with somnolence or a state of apathy or stupor: an acutely painful condition with spasm—sometimes tetanoid—of certain groups of muscles, especially the posterior muscles of the neck, occasioning retraction of the head: and an increased sensitiveness of the surface of the body. Throughout the disease there is marked depression of the vital powers; not unfrequently collapse: and in its course an eruption of vesicles, petechial, or purpuric spots, or mottling of the skin, is apt to occur. If the disease tend to recovery, the symptoms gradually subside without any critical phenomena, and convales-

cence is protracted: if to a fatal termination, death is almost invariably preceded by coma. After death the enveloping membranes of the brain and spinal cord are found in a morbid state, of which the most notable signs are engorgement of the blood vessels, usually excessive, and an effusion of sero-purulent matter into the meshes of the pia mater and beneath the arachnoid \*.

To the clinical manifestations of the disease, indicated in this definition, may be added the presence of Kernig's sign\* and of *tache cérébrale*.†

Local prevalence of a malady distinguished by the foregoing features would, no doubt, attract attention and would, it may be presumed, lead to early recognition of its true nature. But, while these features are characteristic of Cerebro-Spinal Fever of typical and severe sort, experience has taught us that this fever may, and does, appear in milder or in anomalous forms which render identification difficult, and which lead to its being mistaken for other ailments of more common occurrence in this country. Illustration of this is afforded by certain localised outbreaks of Cerebro-Spinal Fever in the Eastern Counties in 1890, where this disease was generally mistaken for sunstroke or for enteric fever, or was looked upon as a new form of illness; by the prevalence of what would seem to have been Cerebro-Spinal Fever in Northamptonshire in 1890-91, where the malady was for the most part diagnosed as pneumonia or as sore-throat; and by the occurrence of Cerebro-Spinal Fever in Irthlingborough in the present year, where many of the per-

\*To obtain this sign, the patient is placed so that the hip-joint is semi-flexed, and while the hip-joint is retained in this position the knee-joint is extended passively. A contraction of the hamstrings then sets in, which causes resistance to the extension.

† A congested streak produced by drawing the finger-nail gently over the patient's thigh, abdomen, or face. In cases of meningitis this appears earlier (within 30 seconds), lasts longer (8, 10, or 15 minutes), and is broader and of deeper colour than in healthy persons.

sons attacked were regarded as suffering from influenza. In these anomalous forms of Cerebro-Spinal Fever, many or even most of the symptoms associated with the recognised type of the disease may be absent, while, in mild cases, they may be so slight or of such brief duration as to escape notice. It is, however, for such cases that it is necessary to be on the outlook, whether in relation with a definite occurrence of Cerebro-Spinal Fever in a locality, or by reason of the prevalence in a particular neighbourhood of illness not clearly referable to definable cause. In these circumstances, there would be advantage in the local Medical Officer of Health endeavouring to secure, by arrangement with the medical men practising in his district, information as to the existence of cases of the kind in question.

Failure to recognise Cerebro-Spinal Fever is also apt to happen when the malady is of the "fulminant" variety, in which death ensues rapidly. In these instances the disease has been mistaken for typhus fever, idiopathic tetanus, or malignant measles.

An important aid to diagnosis may be found in examination of cerebro-spinal fluid, withdrawn from the lower part of the spinal canal by lumbar puncture, for the presence of the "*diplococcus meningitidis intracellularis*" of Weichselbaum; a micro-organism which is now generally regarded as the specific cause of Cerebro-Spinal Fever.

Whether Cerebro-Spinal Fever is spread by direct infection from person to person is matter of uncertainty; indeed, there is as yet no definite knowledge as to the way or ways in which its transmission may take place. Since, however, the possibility of direct personal infection cannot, on the evidence available, be excluded, it will be wise to endeavour to secure, as far as practicable, the isolation of the sick from the healthy. It will also be advisable to apply



suitable measures of disinfection to premises that have been occupied by the sick, and to articles that may have been in relation with them.

In view of the fact that the presence of Weichselbaum's diplococcus has been observed in the mucus of the nose and mouth, not only of the sick, but also of those attending on the sick, there may be advantage in resorting to periodical ablutions of the nasal and buccal passages of the sick and their attendants.

W. H. POWER,

Medical Officer.

Local Government Board,

July, 1905.

Public Health Office,

51, Ainsworth Street.

Blackburn.

August 30th, 1905.

Dr. ....

Blackburn.

Dear Sir,

The suspicion that cases of *Cerebro-Spinal Meningitis* have occurred recently in Blackburn renders it my duty to ask you to note especially all doubtful cases of this disease in your practice.

The disease may appear in a severe or in a mild anomalous form.



In the latter form diagnosis is difficult.

An important aid to diagnosis may be found in examination of cerebro-spinal fluid, withdrawn from the lower part of the spinal canal by lumbar puncture.

I shall be glad to give you any assistance within my power.

I am, yours faithfully,

ALFRED GREENWOOD,

Medical Officer of Health.

During 1905 three rapidly-fatal cases of illness occurred amongst children in Blackburn, which made me suspect the possibility of Cerebro-Spinal Fever, but I had not the opportunity of making a clinical examination during life.

The following histories were obtained:—

#### CASE I.

J.J.E. Boy. Aged 10 years. First complained of feeling ill on Thursday afternoon, August 10th, 1905. He vomited several times, and the mother said he felt feverish. He slept soundly on Thursday night. On Friday morning, August 11th, the mother found him lying in bed on his left side. There was a profuse yellow discharge from the left nostril. The patient was conscious and did not complain of any pain. He slept well on Friday night. On Saturday morning, August 12th, he was moving his arms and legs violently. A medical man was called in. The patient was semi-unconscious; the head was retracted and a squint was present. The pupil reflexes were lost. There was incontinence of urine and fæces. No rash. No hæmorrhage. Temperature, 101° F. No other signs. The boy became comatose, the lips covered with sordes, and he died at 9-30 o'clock on Saturday night, August 12th.

## CASE II.

B.E. Girl. Aged 8 years. Sister of Case I., living in the same house. Began with vomiting on Sunday morning, August 20th, 1905. Arms and legs moved violently. The symptoms were like those of Case I., but more rapid, and death ensued at 8 o'clock on Tuesday morning, August 22nd.

There were thus 10 days between the onset of each case

Cases I. and II. had been in contact with each other more than the other members of the family, which consisted of father, mother, and six *other* children, aged 23, 19, 16, 14, 12, and 4 years respectively.

The family had lived in the same house for three years

There was a distinct family history of consumption, as follows:—

On the mother's side, the grandfather and the grandmother had died from consumption. Also an aunt and an uncle had died from the same disease. On the father's side the grandfather had died from consumption.

## CASE III.

J.H. Boy. Aged 10 years. Began with vomiting and headache at 3 o'clock on the afternoon of Wednesday, September 6th, 1905. All the limbs twitched. The patient became comatose and died at 2 p.m. on Thursday, September 7th.

There had been no connection between the first two cases and the third case.

The above particulars have been set forth because it appears necessary that sanitary authorities should be watchful to detect the presence of the disease, and should ascertain that it is absent from their districts.

## TUBERCULOSIS.

There were 226 deaths from Tuberculosis during 1905, compared with 211 during 1904, and 213 during 1903.

Of these 226 deaths, 142 were due to phthisis or tuberculosis of the lungs.

The death-rate from Tuberculosis was 1.70 per 1,000, and from Phthisis it was 1.06 per 1,000.

The corresponding death-rates for 1904 were 1.59 and .94 per 1,000 respectively.

## PHTHISIS.

During 1905, 173 notifications of Phthisis were received, 102 of which were males and 71 females.

The following Table shows the number of Phthisis deaths and notifications during 1905:—

### DEATHS.

Jan.	Feb.	March	April	May	June
9	17	11	12	17	12
July	Aug.	Sept.	Oct.	Nov.	Dec.
8	15	11	9	6	15
—Total, 142.					

### NOTIFICATIONS.

Jan.	Feb.	March	April	May	June
19	17	14	13	18	17
July	Aug.	Sept.	Oct.	Nov.	Dec.
8	12	13	15	9	18
—Total, 173.					

Of the 142 deaths, 70 had been notified during life, or 49.2 per cent.

105 Deaths were investigated as compared with 97 during the previous year.

Of the Deaths 66 were males and 39 females.

Of the 105 Deaths 3 were under 1 year of age.

„	11	„	from 1 to 15 years of age.
„	21	„	„ 15 to 25 „
„	47	„	„ 25 to 45 „
„	23	„	„ 45 years and upwards.

In 38 cases the disease had been present less than six months, in 23 cases from six to twelve months, in 44 cases from one year and upwards

### SOURCE OF INFECTION

In 9 cases the infection may have been contracted from another patient in the same house, who had either died or was still suffering from consumption at the time the new case became infected.

Upon inquiries being made into the notified cases and deaths during 1905, it was found that in five cases, respectively, the mother, father, wife, uncle, and aunt appeared to have been the infecting cases; whilst infection appeared to have been due in two cases to a brother and in two cases to a sister.

A girl, aged 20 years, attended her mother, who was affected with Phthisis. The mother died six months before her daughter. The daughter was affected with the disease for eight months

A girl, aged 11 years, contracted the disease from her father. She had suffered from the disease for 5 years, and her father's death occurred 4 years before the girl's death.

A girl, aged 17 years, lived with a sister. The sister had died from the disease 10 months previous to the girl's death from Phthisis.

A man, aged 25 years, who had suffered from the disease for 6 months, had been associated with a sister in the last stages of the disease.

A woman, aged 34 years, who had suffered from the disease for 12 months before her death, was infected by a brother who had lived with her for 3 months and had only left her 1 month before the onset of his own illness.

A woman, aged 27 years, suffered from the disease for 12 months, and had resided with a brother for some years before her death. The brother died 3 months before his sister.

A man, aged 54 years, had suffered from the disease for 2 years. His wife's death had preceded his by 10 months. The wife had suffered from Phthisis for 6 years.

A girl, aged 15 years, had been associated with an aunt, who had resided in the same house for 2 weeks. The aunt died in the house, and there was no disinfection after her death. The girl commenced with Phthisis 4 months after her aunt's death.

A youth, aged 18 years, had suffered from the disease for 11 months. He had lived with an uncle suffering from Phthisis until death.

In addition to the above cases, there were two other cases in which infection had been received, as follows:—

A child, aged 7 years, died from Phthisis after suffering for three years. The child had been looked after by a woman who was herself suffering from Phthisis.

A nurse, aged 26 years, suffered from Phthisis for 16 months and then died from the disease. For a period of 7 weeks before the onset of the disease, and also at intervals for some months previously, she had nursed in the Phthisis wards of a Workhouse Infirmary.

In this case there was no family history of Phthisis, and no predisposing cause except the above.

## DEATHS FROM PHTHISIS.

Of the 105 deaths which were investigated, the length of disease was as follows:—

In 11 cases the illness had lasted from 1 to 3 months.				
„ 27	„	„	„	3 to 6 „
„ 23	„	„	„	6 to 12 „
„ 26	„	„	„	1 to 2 years.
„ 4	„	„	„	2 to 3 „
„ 9	„	„	„	3 to 5 „
„ 5	„	„	„	5 to 10 „

In 67 cases, or 63.8 per cent., the duration of the disease was from 6 months to 10 years.

It is interesting to note the length of time during which each person continued working after being infected.

Under 1 month 3 had continued working.

From 1 to 3 months 10 had continued working.

„ 3 to 6	„ 10	„
„ 6 to 12	„ 15	„
„ 1 to 2 years	10	„
„ 2 to 3	„ 5	„
„ 3 to 4	„ 3	„

(This list includes notifications and deaths.)

Two children had attended school for 1 month and 2 years respectively after becoming infected with the disease.

Five persons were still working when inquiry was made.

A male, aged 27 years, was employed in dyeworks. A male, aged 47 years, worked as a plasterer. A female, aged 35 years, was a cardroom-hand. A female, aged 20 years, was a weaver; and a male, aged 36 years, was a hawker.

The social habits of persons have an effect on the causation of this disease, to which further reference will be made under the heading of “occupation.”



Of the 163 cases investigated, 5 were infants; and of the remaining 158 cases, 38 were total abstainers (including 14 at ages from 7 to 19 years. 83 were temperate, 15 fairly temperate, and 22 intemperate.

## HEREDITARY DISPOSITION ASCERTAINED FROM DEATHS AND NOTIFICATIONS OF PHTHISIS.

Out of 163 cases, 44 had a family history of consumption.

The particulars of five of these cases are as follows:—

(1) A girl, aged 15 years, suffered from the disease. Her mother's two sisters and brothers, and also her father and sister, had died from Phthisis.

(2) A female, aged 26 years. Father, grand-uncle, and brother died from Phthisis.

(3) A female, aged 30 years. Brother, mother, and father's two sisters died from Phthisis.

(4) A male, aged 34 years. Three sisters and two brothers died from Phthisis, and another brother was suffering from the disease at the time of death.

(5) A male, aged 38 years. A sister, the mother, and a maternal aunt died from Phthisis.

## OCCUPATION.

There were 57 cases of Phthisis amongst cotton operatives; 24 cases were notified, and there were 33 deaths, as compared with 49 cases (23 notifications and 26 deaths) during 1904.

Of the notifications, 9 were males and 15 females.

The following is the age distribution of these 33 deaths:—

From 10 to 25 years,	15 deaths occurred.
„ 25 to 45 „	15 „
„ 45 years and upwards	3 deaths occurred.

The number of cases amongst weavers was 30, of whom 13 were males and 17 females, as compared with 28 during 1904.

The weavers represent 65.7 per cent. of the total number of cotton operatives. The number of cases amongst weavers (30) represents 52.6 per cent. Therefore the weavers did not suffer to a greater extent than other cotton operatives.

Of the 30 cases amongst weavers, 12 were notifications and 18 deaths. Of the 12 notifications, 4 were males and 8 were females. Of the 18 deaths, 8 were males and 10 were females.

The remaining 27 cases amongst cotton operatives were distributed as follows:—There were 9 winders, 7 spinners, 3 reachers, 3 cardroom-hands, 1 warper, 1 loomer, 1 loomer and twister, and 2 overlookers.

There was a family history of Phthisis in 19 out of the 57 cases occurring amongst the cotton operatives. Eleven of the cases were weavers, 3 winders, 2 reachers, 1 a spinner, 1 a cardroom-hand, and 1 an overlooker.

Of the 57 cotton operatives, 17 were total abstainers, 35 were temperate, and 5 intemperate.

Of the 5 intemperate, 1 was a loomer and twister, 2 were weavers, 1 an overlooker, and 1 a spinner. These five were males.

There were 7 deaths from Phthisis occurring in stone-masons.

There was no family history of consumption in any of these cases. Four were temperate, and three intemperate.

Amongst foundrymen there were six cases.

(1) Male, aged 29 years. Worked in a foundry for some months before being attacked with Phthisis. He had also served in South Africa during the recent war. There was no family history of consumption.

(2) Male, aged 64 years. Had been an iron grinder all his life; was temperate; and there was no family history of consumption.

(3) Male, aged 28 years. Worked in a foundry for 12 months before the onset of Phthisis, and had served previously in the recent South African war. He was temperate. A brother died from Phthisis.

(4) Male, aged 54 years. Had been an iron-turner for the greater part of his life, but the last few years preceding death he had followed the occupation of a grocer. He was temperate, and there was no family history of Phthisis. His wife, who had suffered from Phthisis for 6 years, died 10 months before deceased.

(5) Male, aged 42 years. Had been a boiler-coverer for some months before contracting Phthisis. He was temperate, and there was no family history of Phthisis.

(6) Male, aged 42 years. Had been an iron-driller. Pneumonia preceded the Phthisis. Deceased was temperate. His mother died from the same disease.

In the following cases the dusty occupation was probably an important factor in causing Phthisis.

(1) Male, aged 24 years. Had worked for some years preceding the onset of the disease in a paper mill. His work consisted in sorting rags, and was consequently very dusty. Deceased was a total abstainer, and there was no family history of Phthisis.

(2) Male, aged 50 years. Was a baker, and his duties, in addition to baking, included the taking round to houses of the baked material for purposes of sale. Deceased was a total abstainer, and there was no family history of Phthisis. It is possible that the frequent changes of temperature to which the patient was exposed also assisted in causing Phthisis.

(3) Male, aged 42 years, worked in a corn mill. The work consisted in filling sacks with crushed corn and afterwards conveying them to another part of the mill. Deceased was temperate, and there was no family history of Phthisis.

(4) Male, aged 36 years. Was a joiner. There was no family history of Phthisis.

(5) Male, aged 57 years. Was a joiner, temperate, and had suffered from chronic Bright's Disease before the onset of Phthisis. There was no family history of this disease.

Other cases in which occupation appeared to have been a predisposing cause were as follows:—

(1) Male, aged 51 years, a hawker, fairly temperate. No family history of Phthisis.

(2) Male, aged 36 years, a hawker, temperate. There was no family history of Phthisis.

(3) Female, aged 44 years, was a washerwoman most of her life, was temperate, and there was no family history of Phthisis.

In the following cases occupation may have been associated with Phthisis:—

(1) Female, aged 35 years, barmaid. Deceased had suffered from chronic dyspepsia for some years before the onset of Phthisis. There was no family history of Phthisis.

(2) Male, aged 25 years. Had been employed in public-houses for some years before the onset of the disease. There was no family history of Phthisis.

(3) Male, aged 23 years, a billiard-marker. There was no family history of Phthisis.

(4) Male, aged 53 years, a retired publican. Pneumonia had preceded the onset of the disease by three years. There was no family history of Phthisis.

(5) Male, aged 54 years, a retired publican, and suffered from chronic dyspepsia for some years before the onset of Phthisis. There was no family history of Phthisis

(6) Male, aged 42 years, worked in a brewery for 17 years. Influenza, followed by pneumonia, preceded the onset of the disease. There was no family history of Phthisis

#### ASSOCIATED RESPIRATORY DISEASES AMONGST COTTON OPERATIVES SUFFERING FROM PHTHISIS.

There were 13 cases in which respiratory diseases preceded Phthisis, as follows :—

(1) Female, weaver, aged 15 years, had Bronchitis preceding Phthisis.

(2) Male, weaver, 43 years of age, had suffered from Bronchitis each winter for several years before the onset of Phthisis

(3) Female, winder, 36 years of age, had Bronchitis preceding Phthisis.

(4) Female, winder, 33 years of age, had Bronchitis for two successive winters before the onset of Phthisis

(5) Male, spinner, aged 48 years, had Pleurisy preceding Phthisis.

(6) Male, weaver, aged 39 years, had Pleurisy before the onset of Phthisis

(7) Female, weaver, 48 years of age, had suffered from Pleurisy previously.

(8) Male, weaver, aged 26 years, had Laryngitis for a period of 7 months before Phthisis.



In the following cases the respiratory disease followed Influenza:—

(1) Male, weaver, 29 years of age, had Influenza, followed by Bronchitis, one month before the onset of Phthisis.

(2) Female, weaver, 28 years of age, had Influenza, followed by Bronchitis, five months before the commencement of Phthisis.

(3) Female, weaver, 14 years of age, had Influenza, followed by Bronchitis, 12 months before Phthisis.

(4) Female, weaver, 30 years of age, had Influenza, followed by Bronchitis, 6 months preceding Phthisis.

(5) Female, spinner, aged 20 years, had Influenza and Bronchitis preceding Phthisis.

#### PREVIOUS ILLNESSES.

Respiratory diseases preceded Phthisis in 12 cases other than cotton operatives.

In 2 cases there had been Pneumonia, in one at the commencement of the Phthisis, in the other two years before the onset of Phthisis.

In 7 cases there had been winter Bronchitis for several successive years preceding the Phthisis.

In 2 cases Bronchitis had occurred at the commencement of the illness.

In 1 case there had been several attacks of Pleurisy during a period of 5 years preceding the onset of Phthisis.

Influenza in connection with cotton operatives has been already referred to; in 4 other cases this disease preceded the onset of Phthisis.



In 3 cases the Phthisis followed Nephritis. In 2 cases there had been Diabetes before the onset of Phthisis; and, in another case, Measles, followed by Pneumonia, just before the onset of Phthisis.

In one case there had been a period of ill-health following child-birth a few months before the onset of the disease.

In a certain number of cases there had been general debility and weakness before the onset of the disease. In these cases there was no predisposing cause in regard to occupation and no family history of Phthisis.

In some cases, through lack of proper employment, there had been insufficiency of food.

#### PREVIOUS TUBERCULAR DISEASE IN PHTHISICAL PATIENTS.

(1) A female, aged 33 years, had suffered from tubercular disease of the right ankle joint 4 years previous to her death from Phthisis. The Phthisis had lasted 6 months.

(2) A male, aged 34 years, had had tubercular disease of the spine for some years before the onset of Phthisis.

(3) A female, aged 18 years, had suffered from tubercular glands of the neck 9 years before the onset of Phthisis. There had been recurrent inflammation also in the glands of the neck (tubercular) just before the onset of Phthisis.

#### INSANITARY CONDITIONS AND OVER-CROWDING AT HOUSES CONTAINING PHTHISICAL PERSONS.

Inquiries were made into 163 cases, respecting number of occupants in the houses, number of rooms, etc.

One of the houses in which the patient had lived was a Common Lodging-House. One person died in the Workhouse.

Of the 161 houses, 1 contained 1 room.

„	„	1	„	3	rooms.
„	„	91	„	4	„
„	„	27	„	5	„
„	„	34	„	6	„
„	„	5	„	7	„
„	„	2	„	9	„

With regard to the number of occupants, there were 5 or less in 112 out of the 161.

Of the remaining 49,

14	contained	6	persons.
14	„	7	„
14	„	8	„
4	„	9	„
3	„	10	„

Of the 14 houses containing 6 persons, 11 were four-roomed, 1 was five-roomed, and 2 were six-roomed.

Of the 14 houses containing 7 persons, 7 were four-roomed, 3 were five-roomed, and 4 were six-roomed.

Of the 14 houses containing 8 persons, 3 were four-roomed, 2 were five-roomed, 6 were six-roomed, 2 were seven-roomed, and 1 was nine-roomed.

Of the 4 houses containing 9 persons, 1 was four-roomed, 1 was five-roomed, and 2 were six-roomed.

Of the 3 houses containing 10 persons, 1 was four-roomed, 1 five-roomed, and another six-roomed.

The sanitary condition of the 161 houses was, on the whole, satisfactory.

In 6 of the houses the ground-floor was damp, and in 4 houses one of the walls was damp. In five the bedroom was damp through defective roofs, easingtroughs, or downspouts.

There were 16 houses in a dirty condition through lack of cleansing, and 27 houses were only fairly clean.

The following is an analysis of the sanitary conveniences at the houses visited:—

72	houses	had	fresh-water	closets.
21	„		slop-water	closets.
8	„		privy-middens.	
60	„		pail-closets.	

### HOUSE INFECTION.

In cases where Phthisis had attacked a second member of a family, and where there had been a fairly long interval between the death of the relative and the onset of the disease in the second member, the infection may have remained in the house if disinfection had been refused by the householder.

Examples have been given in connection with the source of the infection.

Three out of the 105 deaths investigated took place in the Workhouse Hospital after a very short residence in that institution. One of these cases had resided in a Common Lodging-House for some time before being admitted to the Workhouse. There were other persons who had died in the Workhouse and who previously resided in Common Lodging-Houses. In one case a man had resided in two different Lodging-Houses within the space of a few months, but was finally lost sight of. No definite information could be obtained regarding these three cases, and they have not been included in the above 105 deaths. Such persons in the last stages of the disease in a Common Lodging-House must be a constant source of danger to their fellow-lodgers.

## PRECAUTIONS TAKEN.

*I.—At Home.*

99 cases were isolated, but 19 for a portion of the illness only.

49 of the persons affected used rags, 20 paper, and 7 both paper and rags, for the expectoration. In 7 cases a vessel lined with paper was used, the contents burnt and the vessel scalded. In several cases the contents were burnt and the vessel disinfected. A vessel containing paper was used in other cases, and the contents were emptied into the sanitary conveniences.

*II.—At Work.*

In very few cases were any precautions taken at work.

There is a very grave danger from the indiscriminate expectoration in mills and workshops.

## DISINFECTION.

After each death from Phthisis I sent a letter, stating that, for the protection of the health of the inmates, the house should be disinfected thoroughly, and offering to send men to carry out this work at the expense of the Health Department.

This offer was accepted in 97 instances out of the 142 deaths from this disease.

Out of the 173 houses in which cases of Phthisis were notified, 20 were disinfected by request of the tenants.

TABLE XXXVII.

Deaths from Tuberculosis for Ten Years

	1905.		1904.		1903.		1902.		1901.		1900.		1899.		1898.		1897.		1896.	
	Deaths	Death Rate	Deaths	Death Rate	Deaths	Death Rate	Deaths	Death Rate	Deaths	Death Rate	Deaths	Death Rate	Deaths	Death Rate	Deaths	Death Rate	Deaths	Death Rate	Deaths	Death Rate
General Tuberculosis..	17	0·12	10	·07	8	06	18	·13	22	0 17	6	0·04	4	0·03	8	0·06	15	0·11	15	0·12
Tabes Mesenterica ...	27	0·20	40	·30	28	·21	24	·18	35	0·27	47	0·37	20	0·15	34	0·27	54	0·43	31	0·25
Acute Hydrocephalus & Tubercular Meningitis	33	0·24	28	·21	47	·35	51	·39	23	0·18	14	0·11	8	0·06	7	0·05	7	0·05	17	0·13
Phthisis .....	142	1·06	125	·94	122	·93	163	1·25	150	1·17	148	1·16	152	1·20	154	1·22	149	1·19	142	1·14
Other Forms .....	7	0·05	8	·06	8	·06	6	·04	12	0·09	30	0·23	33	0·26	13	0·10	14	0·11	9	0·07
Total .....	226	1·70	211	1·59	213	1·62	262	2·0	242	1·89	245	1·92	217	1·71	216	1·72	239	1·91	214	1·72

## FACTORIES AND WORKSHOPS.

The Factory and Workshops Act of 1901 has again been well administered during the year, and many improvements have been effected.

There are 844 workshops on the register for the year ending December 31st, 1905 (showing a decrease of 47, which have been given up), and containing 1,157 rooms, of which 64 are underground.

The number of males employed in these workshops was 1,745, and the number of females 1,120, as compared with 1,757 males and 998 females in 1904.

The inspections of the above workshops and workrooms have not been so numerous as in 1904, owing to the greatly increased number of visits to factories in regard to infectious diseases, and to their sanitary conditions, as required by the notifications of H.M. Inspectors.

A summary of 2,847 visits may be seen in Table XXXVIII.

The 497 defects found have been set forth in Table XL., of which 376 have been remedied in Table XXXIX., the 221 defects outstanding being in connection with sanitary conditions in factories, which it is expected will be remedied before the close of the present year (1906).

### I. SANITARY CONDITIONS OF WORKSHOPS.

#### (A) CLEANLINESS.

Several workshops were found to have dirty floors or windows as compared with 8 in 1904.



Twenty-three workshops were found to have dirty yards, and 26 workrooms required limewashing at the Inspector's visit, as compared with 29 in 1904.

The above figures show that it is absolutely necessary that a strict supervision should be kept over the various workshops.

#### (B) AIR SPACE.

One workroom was found to be over-crowded, as compared with 3 in 1904, but the nuisance was abated immediately it was pointed out to the occupier.

#### (C) VENTILATION.

Ten workrooms were found to be deficient in ventilation, compared with 9 in 1904, 28 in 1903, and 55 in 1902.

There has been a decided improvement in this respect, as the occupiers of workshops pay greater attention than previously in preventing the employees from obstructing the air current by closing the ventilators.

#### (D) DRAINAGE OF FLOORS ON WHICH WET PROCESSES ARE CARRIED ON.

These processes include tripe-boiling establishments, laundries, etc., and the drainage of these floors has been so satisfactory that there has not been any reason for complaint.

#### (E) PROVISION OF SUFFICIENT AND SUITABLE SANITARY CONVENIENCES.

#### SANITARY CONVENIENCES IN WORKSHOPS.

The following is the character of the sanitary conveniences at the various workshops :—

- 620 Water Closets.
- 240 Tub Closets.
- 53 Privy Middens.

Notices for the provision of 88 fresh water closets, and the repair or re-construction of 85 others, have been issued during the year; 52 have been completed : —

10 additional water closets,  
 2 for the separation of the sexes,  
 9 repaired or re-constructed,

—  
 21 *at the workshops*; and

24 additional water closets,  
 7 for the separation of the sexes,

—  
 31 *at the factories*; leaving

121 water closets to be provided.

#### SANITARY CONVENIENCES IN FACTORIES.

The following appears in Section 5, Factories and Workshops Act, 1901 : — (1) Where it appears to an Inspector that any act, neglect, or default in relation to any drain, water closet, earth closet, privy, ashpit, water-supply, nuisance, or other matter in a factory or workshop, is punishable or remediable under the law relating to public health, but not under this Act, that Inspector shall give notice in writing of the act, neglect, or default to the District Council in whose district the factory or workshop is situate, and it shall be the duty of the District Council to make such inquiry into the subject of the notice, and take such action thereon as seems to that Council proper for the purpose of enforcing the law, and to inform the Inspector of the proceedings taken in consequence of the notice.

Seventy-four notifications under the above (Section 5, Factory and Workshop Act, 1901), have been received from H.M. Inspectors, viz. : —

Fifty-five for factories, and 19 for workshops, as follows:—

### FACTORIES.

FLEMING SQUARE.—“Water closet in workroom not ventilated.”

This was made satisfactory.

FLEMING SQUARE.—“No water closets provided.” This was referred to the Borough Engineer.

MINCING LANE.—“Closet in workroom is not ventilated.” This was made satisfactory.

BRIDGEWATER STREET.—“Nuisance caused in workroom by horse being stabled there part of the day.” The nuisance was abated.

WEIR STREET.—“Closet is not ventilated.” This was made satisfactory.

CANTERBURY STREET.—“The sanitary accommodation for the women employed is inadequate. The conveniences adjoining the shed are badly ventilated and cause effluvia. They are not separated from each other. The one in the yard is unventilated, and has a urinal placed opposite it imperfectly screened.” The conveniences have been re-constructed. Adequate accommodation for the women employed has been provided by an additional water closet, and the whole efficiently ventilated. The water closets for the males and the females have been entirely separated by the erection of four new conveniences and urinal for the males, the entrance to which is from the open yard, and the entrance to the females' closets from the shed. These conveniences have been placed upon the most modern principle, and comprise four pedestal wash-down closets for the females and four pedestal wash-down closets with suitable urinal for the males, and comply with the requirements of the order of the Secretary of State.

CANTERBURY STREET.—“The sanitary accommodation for the women is inadequate, and the conveniences are dark, unventilated, insufficiently flushed, and placed without due regard to privacy.” Adequate sanitary accommodation has been provided for the women. The conveniences at this factory have been placed upon a modern principle, viz.:—Six pedestal wash-down closets for the females, and three pedestal wash-down closets with urinal for the males, all of which have been efficiently lighted and ventilated. The closets for the different sexes are separated, and properly screened so as to secure privacy.

VICTORIA STREET.—“The sanitary conveniences are inside the workroom.” At the above premises it is impossible to alter the situation of the sanitary conveniences, but they have been efficiently ventilated to the external air.

GRIMSHAW PARK.—“There is very bad effluvia in the cardroom, apparently drawn in through the disused closet from the cesspool.” The admittance of effluvia from the cesspool to the cardroom has been prevented by placing self-dropping covers upon the seat-board of the conveniences.

CUMPSTEY STREET.—“The conveniences for the women weavers cause effluvia.” All the conveniences for the female and male weavers to be re-constructed. Notice has been sent to this effect.

GRIMSHAW PARK.—“The sanitary accommodation is inadequate for the number of women and girls employed.” Adequate sanitary accommodation has been provided by the addition of three pedestal wash-down closets of approved type; also the removal of two trough closets, which have been replaced by pedestal wash-down closets.

WILLIAM HOPWOOD STREET.—“Sanitary convenience in workroom unventilated.” This was efficiently ventilated to the external air.

YORK STREET.—“Drain of one corner of bakehouse with trap unventilated.” The above-mentioned drain is so constructed as to discharge over a properly trapped gully situated outside of the bakehouse.

EDWARD STREET.—“Closet in workroom unventilated.” This was efficiently ventilated to the external air.

SHORT STREET.—“No flush in water closet.” An efficient service of fresh water was supplied for flushing purposes.

WILLOW STREET.—“Sanitary conveniences unsatisfactory.” The sanitary accommodation was made satisfactory by the provision of additional water closets, and the conversion of pail closets to the fresh water system.

BOLTON ROAD.—“No doors to closets.” These closets are used by male employees only, they are isolated from any other building, and are screened so that privacy is secured.

COMMERCIAL STREET.—“Sanitary accommodation defective.” Notice has been sent to reconstruct the existing closet accommodation, and to provide six additional water closets.

ELEANOR STREET.—“Sanitary accommodation; number insufficient, no doors to women’s closets.” Sufficient and suitable sanitary accommodation will be provided when a sewer has been made accessible.

EDEN STREET.—“No sanitary convenience provided.” (Previously notified.) A pedestal wash-down closet has been placed upon an earthenware shaft, which connects with a sewer running under the factory, but it is inadequately flushed owing to the absence of a supply of town’s water. The Borough Engineer has been notified of the above.

EDEN STREET.—“No sanitary convenience provided.” (Notified previously.) The owner is willing to provide sufficient and



suitable sanitary accommodation as soon as a sewer and a town's water supply has been made accessible at his premises. The Borough Engineer has been notified of the above.

MINCING LANE.—“Sanitary convenience in workroom unventilated.” Owner notified to ventilate to the external air.

MANNER SUTTON STREET.—“Sanitary convenience in upper floor of engine shop open to workroom, and emitting smell; also not partitioned off.” Notice sent to re-construct the existing trough closets to pedestal wash-down closets, to disconnect from the workroom, and ventilate to the external air.

INGHAM STREET.—“Urinal in workroom unventilated.” This has been re-constructed and ventilated to the external air.

EWOOD.—“No closet provided.” Two pedestal wash-down closets with urinal have been erected.

ALBERT STREET. “No sanitary conveniences provided.” Two pedestal wash-down closets have been provided.

MINCING LANE. “Closets unsuitable.” Notice has been sent to convert the two existing pail closets to pedestal wash-down closets of approved type.

PARK PLACE.—“No doors fitted to females' closets.” These conveniences are separated from those used by the male employees, and are screened so as to secure privacy.

HART STREET.—“Sanitary conveniences not well ventilated; complaint of smells.” These conveniences are on the privy system, and will be converted to the water-carriage system when a sewer is made accessible.

SHAW STREET.—“No closet provided.” Suitable sanitary accommodation has been provided.



UPPER ROYSHAW.—“No closet provided.” A water closet of approved type will be provided when the sewer in connection with the new mill adjoining is completed.

LOWER HOLLIN BANK STREET.—“Sanitary accommodation defective.” Notice has been sent to re-construct existing closets and to provide sufficient and suitable sanitary accommodation.

HALL STREET.—“Sanitary accommodation defective.” Notice has been sent to re-construct existing closets, and to provide sufficient and suitable sanitary accommodation.

DUKE STREET.—“Sanitary accommodation defective.” Notice has been sent to re-construct the existing conveniences, and to provide sufficient and suitable accommodation.

ALBERT STREET.—“Sanitary accommodation defective.” Notice has been sent to re-construct the existing closets, and to provide sufficient and suitable accommodation.

FORREST STREET.—“Sanitary accommodation defective.” Notice has been sent to provide additional sanitary accommodation.

EXCHANGE STREET.—“Closet unventilated.” Notice has been issued to efficiently ventilate the closet to the external air.

WHALLEY NEW ROAD.—“Sanitary accommodation defective and insufficient.” Notice has been sent to re-construct the existing closets, and to provide sufficient and suitable accommodation.

WHALLEY NEW ROAD.—“Sanitary accommodation defective and insufficient.” Notice has been sent to re-construct existing closets, and to provide sufficient and suitable accommodation.

CORDEN STREET.—“Sanitary accommodation insufficient. 80 males two w.c.'s.” Notice has been sent to provide an additional water closet of approved type.

BOXWOOD STREET.—“Closets not fitted with doors.” (No notice sent.)

WHALLEY OLD ROAD.—“No doors to closets.” (No notice sent.)

HAYGARTH STREET.—“No doors to closets.” (No notice sent.)

WHARF STREET.—“Sanitary accommodation insufficient.” As there was only one person employed over the number allowed, viz., 76 persons for 3 closets, no notice was sent.

WALPOLE STREET.—“Sanitary accommodation defective. 140 females, 4 conveniences.” Notice has been sent to re-construct the existing convenience, and to provide sufficient and suitable accommodation. “The adjoining factory in Lucknow Street also needs attention; 100 females, 3 conveniences.” Notice to provide an additional water closet, and to carry out other alterations, was sent.

HART STREET. “Sanitary accommodation defective.” The conveniences at this factory are on the privy system, and cannot be altered to the water carriage system until a sewer is accessible.

DICKINSON STREET.—“Sanitary accommodation defective. No doors to women’s conveniences, and those near entrance to No. 2 shed were foul.” These conveniences are being re-constructed, and additional accommodation provided.

NAB LANE.—“Sanitary accommodation insufficient; over 80 females, two conveniences.” Two additional water closets are being provided.

LARKHILL STREET.—“No closet provided.” Notice has been sent to provide a water closet of approved type.

PARADISE STREET.—“Closet unventilated.” Notice was sent to ventilate the closet to the external air.

TURNER STREET.—“Sanitary accommodation defective. No doors to women’s closets; the occupants are overlooked from the staircase leading from winding room.” No notice was sent in regard to the above, as there is not sufficient room to hang doors to the conveniences, and the staircase referred to is the fire escape, which is only used in case of fire.

NEAR 26 RUSSELL STREET.—“No sanitary accommodation provided.” Notice has been sent to provide sufficient and suitable accommodation.

NEW GARDEN STREET.—“No sanitary accommodation provided.” No notice was sent, as suitable arrangements were made for the two males employed.

WENSLEY FOLD. —“Sanitary accommodation insufficient.” Notice to provide sufficient and suitable sanitary accommodation.

### WORKSHOPS.

CABLE STREET.—“Sanitary conveniences are not provided.” A pedestal wash-down closet has been provided.

CORT STREET.—“The walls, especially of the lower machine-room, are not in a cleanly condition.” The walls and ceilings of the lower and upper workrooms were thoroughly cleansed and limewashed.

HIGH STREET.—“Workroom appears to require limewashing.” The walls and ceiling of the workroom was thoroughly cleansed and limewashed.

QUEEN’S PARK ROAD.—“Workroom appears to require cleaning and limewashing.” The walls and ceiling of the workroom was thoroughly cleansed and limewashed.

WATER STREET.—“Both sexes employed, and no sanitary conveniences provided.” The use of these premises as a work-

shop was discontinued, owing to insufficient room in which to erect two separate water closets.

FLEMING SQUARE.—“Separate sanitary conveniences are not provided for the sexes.” The tenants removed to more suitable premises, where separate sanitary accommodation for the different sexes was provided.

UNION STREET.—“Sanitary conveniences not provided.” These premises were not opened as a workshop.

FLEMING SQUARE.—“Ceiling of workroom is in a bad state, and walls of workroom appear to require limewashing.” The ceiling was thoroughly repaired, and the walls and ceiling limewashed.

PRESTON NEW ROAD.—“Underground bakehouse, apparently of the worst type, there being an open gully in bakehouse and no ventilation provided. The place is being used as a bakehouse without a certificate permitting such from your authority.” The above-named underground bakehouse was closed, as being unsuitable for the purpose of baking.

NEW MARKET STREET.—“Pan of w.c. (in cellar) appears to require cleansing.” Notice to cleanse the w.c. was sent to the occupier, and the work was carried out immediately.

KING STREET.—“Workroom appears to require cleansing and limewashing.” Notice was sent to the occupier, and the work of cleansing and limewashing was carried out forthwith.

CANTERBURY STREET.—“Sanitary accommodation does not appear to be provided.” Notice has been sent to the owner to provide sufficient and suitable sanitary accommodation.

FURTHERGATE.—“Workroom appears to require limewashing.” Notice was sent to the occupier, and the work was carried out forthwith.

KING STREET.—“Staircase leading to workroom requires cleansing and limewashing.” This work was carried out by the occupier on receipt of notice.

PRESTON NEW ROAD.—“Walls and ceiling of bakehouse require limewashing.” A notice was not sent with regard to this, as other work ordered by the Health Committee was in hand.

SALFORD.—“Premises consist of two-storey building, upper room being used as workshop, the floor of which is in a bad state, rendering it dangerous for the workers.” Notice was sent to re-board and otherwise repair the floor of the workroom.

DUKE'S BROW.—“Upper workroom appears to require limewashing.” The work was carried out upon the receipt of notice.

SLATER STREET.—“Six females and 4 males employed. Separate sanitary accommodation is not provided.” These premises were discontinued as a workshop on the receipt of the notice to provide sufficient and separate sanitary accommodation.

BOLTON ROAD.—“Bakehouse appears to require limewashing.” The work was carried out upon the receipt of notice.

#### UNDERGROUND ROOMS.

There are 64 of these in the Borough, including those used by bakers.

#### BAKEHOUSES.

There are 128 names on the Workshop Register as Bakers, which include wholesale bakers, retail bakers, and domestic retail bakers and sugar-boilers.

These 147 rooms include 8 underground rooms.

124 males and 162 females are employed in the baking industry of this town.



In 5 bakehouses both sexes are employed.

Particular attention has been paid to the keeping of all walls, floors, etc., in a cleanly condition, and 7 notices were issued in this respect, and 13 notices with regard to other defects.

### UNDERGROUND BAKEHOUSES.

There were 21 underground bakehouses in the Borough at the end of 1903, which, under Section 101 of the Factory and Workshop Act, 1901, were reduced to 12 during 1904, and have been further reduced to 7 (consisting of 8 rooms) during 1905.

In use at the end of 1903 .....	21	
Closed during 1904 .....	9	
Closed during 1905 .....	5	
	—	
	14	
	—	14
Certified during 1904 .....	3	
Certified during 1905 .....	4	
	—	
	7	
	—	
In use at end of 1905 .....	7	
	—	

### LIGHTING OF WORKSHOPS.

The lighting of 580 workrooms is over  $\frac{1}{10}$  of the total cubic space.

### WORKPLACES.

The term "workplace" is not defined in the Act, but it includes any place where work is done permanently, and where people assemble together to do work permanently of some kind or other.



It also includes places where two or more persons meet regularly to perform some work, such work not being in the making altering repairing, ornamenting, finishing, or adapting for sale of any article.

In connection with these places 46 visits have been made for the purpose of seeing that the provisions of the Factory and Workshop Act had been complied with, and 18 notices were sent recommending the following 28 defects to be remedied:—

- 1 Dirty floors or windows.
- 6 Yards and cellars foul.
- 3 Yards in bad state of repair.
- 1 Drains defective.
- 1 Drains blocked.
- 2 Insufficient downspout drainage.
- 1 Defective gully.
- 2 Accumulations of refuse.
- 1 Ash receptacle to be emptied.
- 2 Without ash receptacle.
- 3 General repairs.
- 1 Defective flushing apparatus to w.c.
- 4 Insufficient sanitary accommodation.

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#### FOOD-PREPARING PLACES.

Under this heading are included all pork butchers' shops and other places (not including workshops) in which meat pies, black puddings, sausages, potted meats, tongues, etc., are prepared for human consumption.

During the year 640 visits have been paid to these places, and 6 notices were sent requiring the following work to be carried out:—

- 1 To be ventilated efficiently.
- 3 To be limewashed.
- 2 To open and cleanse drains.
- 2 To provide sufficient downspout drainage.
- 2 To empty ash receptacle.

As these places are inspected at an irregular time nearly every week, they are kept in a satisfactory sanitary condition.

It is extremely important that this should be attended to strictly.

### RESTAURANTS.

The kitchens of restaurants, hotels, dining-rooms, are included in the definition of "workplaces," which is a term used in the Factory and Workshop Act, 1901.

The inspection of these places has been included in the food-preparing and storing places, and have received particular attention, as such a large number of people, including business men who cannot go home to mid-day meal, are compelled to use them, and as it is of great importance that precautions should be taken in the storing and preparation of food. These precautions can only be secured by inspection. The power is given for these inspections in the Public Health Act (Sections 2 and 47), and in the Factory and Workshop Act (Section 2).

### FRIED-FISH AND CHIPPED-POTATO SHOPS.

The number of these places in the town may be estimated at 200.

Particular attention has been paid to their sanitary condition, with the result that 20 notices were sent, covering the following defects:—

- 2 Yards foul.
- 9 Yards in bad state of repair.
- 3 Defective drains.
- 1 Blocked drains.
- 1 Insufficient downspout drainage.
- 4 Defective gullies.
- 2 Defective slop-pipes.
- 18 Accumulations of refuse.
- 3 Burning trade refuse in premises.
- 2 General repairs.
- 1 Defective water closet.
- 1 Erection in yard, obstructing light and ventilation.

## ICE-CREAM PLACES.

I am of opinion that registration and annual re-registration of these places should be enforced, in order to ensure ice-cream being prepared under thoroughly sanitary conditions.

This trade is chiefly carried on by foreigners (generally Italians and French) who come into the town and take up their abode in furnished rooms situated in the lower districts, in some cases having only one room, such as the living and sleeping room combined.

It is with this class of people that a difficulty arises in making them prepare and store ice-cream under proper conditions.

If enforced registration were adopted, the difficulty would be overcome to a great extent, as they would not be allowed to make ice-cream in any place unless it had been considered suitable by the Medical Officer of Health.

Special attention has been given to these places as to cleanliness of their premises and the utensils used in preparing this mixture. being verbally cautioned on each visit. with the result that no written notices were necessary.

## MARINE STORE DEALERS.

An improvement has been made by the occupiers in paying more attention regarding the removal of bones before they became offensive.

Many of these bones are either collected or brought from local butchers, and include the heads of animals with portions of flesh attached.

They are sometimes stored on the premises for several days, and as they decompose cause a great nuisance. especially if the weather is hot and close.

The similar storage of filthy rags and other refuse upon the same premises adds to the nuisance.

Conditions such as these, together with the fact that the premises at present used are not suitable, render the trade a difficult one to regulate efficiently.

In this connection, also, I would deprecate the custom of hawking salt which has been in contact with rags, etc., during the day, and which is stored in unwholesome places at night. Much has been done to try and lessen the evil which may arise, by requesting the dealers to store salt in a separate place from the rags, stones, etc., etc., and by informing the hawkers in the streets that they must provide and keep a covered box for the salt on the barrows or carts, so as to separate it from the rags, etc.

The part referring to the hawkers will not be properly controlled until it is made compulsory to provide a suitable covered box in which to store their small quantity of salt.

Many of the Marine Store-keepers have been asked their opinion as regards the hawking of salt by the rag-gatherers, and have stated that they do not appreciate the trade, and would welcome any printed notice from the Medical Officer of Health forbidding the rag-gatherers to carry salt on their conveyances.

I would again bring before your notice the opinion that it would be a great advantage if all Marine Store dealers were subject to registration, and if bye-laws were made for regulating the duration of the licenses. Insanitary conditions on their premises could then be dealt with more effectually.

#### OFFENSIVE TRADES.

There are 18 establishments in the town in which offensive trades are carried on.

They are as follows :—

Tripe dressers .....	7
Fat melters .....	5
Gut scrapers ... ..	3
Bone boilers .....	1
Knacker .....	1
Soap boiler .....	1
	<hr/>
	18

During the year 123 visits have been paid to these premises and the marine store dealers in the town.

Two notices only were required, covering the 3 following defects:—

- 1 Insufficient ventilation.
- 1 Accumulation of refuse.
- 1 General repairs.

### THE RECORD OF OUTWORKERS.

According to Section 107 of the Factory and Workshop Act of 1901, the occupier of every factory and workshop, and every contractor employed by any such occupier in the business of the factory or workshop, shall:—

I. Keep lists giving the names and addresses of all persons directly employed by him, either as workmen, or as contractors, in the business of the factory or workshop, outside the factory or workshop, and the places where they are employed, and

II. Send on or before the first day of February, and the first day of August, in each year, copies of those lists to the Town Council.

The penalty for a contravention of this section is £2. and for subsequent offences £5.

During 1905. 21 lists have been received, notifying the names and addresses of 60 outworkers or contractors.



This is an improvement as compared with 14 lists of 37 outworkers in 1904, but is still unsatisfactory, as all the firms employing outworkers do not comply with the requirements.

As the employers of outworkers and contractors do not yet seem to recognise that it is compulsory by the Act to send in these lists, it is advisable to consider whether or not it would be desirable to institute legal proceedings against the defaulters. I have sent a circular-letter to employers who are likely to employ outworkers, requesting a regular return in compliance with the Factory and Workshop Act.

The residences and contractors' workshops of the 60 outworkers notified were shortly afterwards visited and inspection made, with the result that 6 notices were sent, covering the following defects:—

- 1 Room required cleansing.
- 2 Yards required cleansing.
- 2 Yards out of repair.
- 1 Defective drains.
- 1 Insufficient downspout drainage.
- 1 Defective slop-pipe.
- 1 Defective gully.
- 3 Accumulations of refuse.
- 3 General repairs.

The following circular-letter was sent to many firms in the Borough who are the most likely to employ outworkers.

Public Health Office.

51, Ainsworth Street.

Blackburn, 1905.

Dear Sir,

I beg to call your attention to Section 107 of the Factory and Workshop Act of 1901, which states that—

“The occupier of every Factory and Workshop,  
“and every contractor employed by such occupier in  
“the business of the Factory or Workshop, shall:—



“Keep in the prescribed form and manner, with  
 “the prescribed particulars, lists, showing the names  
 “and addresses of all persons directly employed by  
 “him, either as workmen or contractors, in the business  
 “of the factory or workshop, and the places where  
 “they are employed, and :—

“Send on or before the first day of February, and  
 “the first day of August, in each year, copies of those  
 “lists to the district council of the district in which the  
 “factory or workshop is situate.

“In the event of a contravention of this section by  
 “the occupier of a factory, workshop or place, or by a  
 “contractor, the occupier or contractor shall be liable  
 “to a fine not exceeding Forty Shillings, and in the  
 “event of a second or subsequent offence, not ex-  
 “ceeding Five Pounds.”

I must ask you to give your immediate attention to  
 this communication.

I am,

Yours faithfully,

ALFRED GREENWOOD,

Medical Officer of Health.

To.....

.....

A printed notice of the following character has been left, or  
 renewed where necessary, at nearly all the workshops where  
 males are employed, and also at the chipped-potato and fried-  
 fish saloons and other food-preparing places.

## WORKSHOPS: CAUTION AS TO SPITTING.

Spitting on the floors and walls is liable to cause Consumption and other diseases amongst the workpeople.

Spitting should be avoided whenever possible.

Those obliged to spit should use a piece of paper, which should be at once burned. or. if it cannot be burned at once it should be folded up in such a way as not to soil the pocket, and burned as soon as possible.

No paper should be used twice.

Ordinary pocket-handkerchiefs should not be used since they scatter infection.

ALFRED GREENWOOD, M.D., D.P.H.,

Medical Officer of Health.

Public Health Office,

51, Ainsworth Street.

Blackburn.

## SANITATION IN HAIRDRESSERS' AND BARBERS' ESTABLISHMENTS.

The Health Committee decided in 1904 that any hairdresser in the town wishing to have his premises examined might apply to the Medical Officer of Health, and, if the same were found satisfactory, that he might receive a certificate to that effect.

Only two such applications were received during 1905, and the necessary certificates were given after the required improvements had been carried out.

The various desirable conditions which should exist in these establishments were described fully in my Annual Report for 1904.

TABLE XXXIX.

1905.—NUISANCES REMEDIED.		Factories	Workplaces	Out Workers and Contractors	Tailors	Dressmakers	Milliners	Cloggers.	Bootmakers	Curriers and Saddlers.	Cabinet Makers and Carvers	Joiners and Masons	Bakers, Confectioners and Sugar Boilers	Basket Makers	Black and White Smiths	Blind and Chair Makers	Brushmakers	Chemists and Photographers	Coopers and Coach-builders	Cotton Waste Sorters and Upholsterers	Scale Makers and Cycle Makers	Hosiery, Underclothing and Shirtmakers	Polishers and Picture Framers	Painters and Plumbers	Printers and Paper Bag Makers	Wire-workers and Tinner.	Wheelwrights	Offensive Trades and Marine Stores	Food Preparers	Greengrocers and Fishmongers	Fish & Chip Dealers	Miscellaneous	TOTALS	
Additional W.C.'s Provided	24	3		2								1	1		1	1																1	34	
Separate Sanitary Accommodation Provided for the Sexes	7			1									1		1	1																	9	
Defective W.C.'s Re-placed or Reconstructed				2	1								1		2	1																	9	
Water Closets Lighted and Ventilated	16			2	1													1							3	1					1	1	24	
Defective Connections of W.C. Pan to Trap Repaired													1												1								1	
Defective Connections and Fittings W.C. Flush Pipe to Pan, Repaired	4	1		1	2				1				1												1								11	
Defective Urinals Soil Pipes Repaired	3			1									1																				5	
Closets Cleansed, Pans Cleaned, Walls and Tops Limewashed	10			5	2				1	2				1			1																22	
Defective Drains (re-laid)		1	1	1											1									1									10	
Choked Drains (cleansed)		1		4							1													1							3	3	12	
Defective Trap Gullies or Dish Stones Replaced		1	1	1																				1					2	1	1	2	8	
Defective Sink Waste Pipes Repaired (short)			1										1											1									6	
Defective Easing Troughs and Downspouts, Repaired	1	2	1										1											1							2	1	10	
Yards and Cellars Re-flagged		2	1	1																				1									17	
Inside Floors and Yards Badly Flagged or Paved, Repaired	1	1	1		2								1											1							4	8	8	
Yards and Cellars Cleansed		6	2	3	3								1	1			1					1					1				1	2	23	
Internal Walls and Ceilings of Rooms Limewashed			1	3	3			1	4	1			4	2			2								1								26	
Internal Floors, Windows and Walls of Work Rooms Cleansed	1		13	2	1								2																			1	17	
Ventilation in Rooms Provided																																	10	
Overcrowding in Work Rooms Abated				1	1																												1	
Accumulations of Refuse and other Debris Removed		2	3	5	3																												1	
Ash Pits and Ash Tubs Provided or Repaired		2			1	3							2					1													18	5	38	
Nuisance from Green Refuse in Ashpit or Burning the same in Premise																															3		12	
Poultry in Work Rooms and Yards Removed													1																			3		3
Low Chimneys Raised	2											1	3																		1		2	
Gullies and Drains Removed from Inside													1																				6	
General Repairs not Detailed	4	3	3	3	1				1	1		2	1	2	1									1							1	1	2	
Notification to H.M. Inspector re Abstract, F. & W. Act 1901				1	7	3							2									1				1	2	1			2	1	1	31
Erections Removed		1																													1	2	15	
No. Defects Found 497, Remedied 376	72	27	15	51	28	6	1	7	4	1	4	25	5	5	4	4	2	0	0	0	4	2	4	5	4	2	3	8	41	30	12		376	



TABLE XXXVIII.—SUMMARY OF VISITS DURING 1905.

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To	January	February	March	April	May	June	July	August	September	October	November	December	Total
Factories.....	4	4	10	19	28	4	12	23	13	33	22	31	203
Workshops.....	2	31	30	15	41	21	8	10	6	19	67	22	272
Workplaces .....	2	5	2	...	6	3	4	...	...	10	10	4	46
Outworkers .....	...	6	29	...	3	6	...	...	16	..	2	...	62
Offensive Trades .....	...	17	14	7	11	16	19	...	13	..	7	19	123
Complaints—Nuisances Investigated.....	3	3	...	...	11	2	6	3	11	17	4	3	63
Greengrocers.....	62	93	105	108	94	105	130	...	66	66	109	106	1044
Food-preparing and Storing Places.....	20	55	70	48	38	102	76	...	73	19	59	80	640
Work in Progress.....	9	37	37	10	44	22	42	13	35	25	46	47	367
Drains { Smoke.....	1	...	2	...	1	...	...	4	...	4	...	...	} 27
Tested { Water .....	...	...	1	...	2	...	...	...	4	...	4	4	
Total .....	103	251	300	207	279	281	297	53	237	193	330	316	2847



Table XL.

Particulars of Registers and Nuisances Found.	I 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32																																	
	Factories.	Workplaces.	Outw'ks & C'tacts.	Tailors.	Dressmakers.	Milliners.	Cloggers.	Bootmakers.	Curriers & Saddlers	Cabinet Makers and Carvers	Joiners & Masons B'krs, Confectioners, and Sugar Rollers.	Basketmakers.	Black & White Smiths.	Blind and Chairmakers	Brushmakers.	Chemists and Photographers	Coopers and Coachbuilders	Cotton Waste Sorters and Upholsters	Scale Makers and Cycle Makers	Hostlers, Under- clothing, Shirtmakers	Polishers and Picture Framers.	Painters & Plumbers.	Printers and Paper Bag Makers	Wirew'ks & Tanners	Wheelwrights and Marine Stores	Offensive Trades and Marine Stores	Food Preparers	Greengrocers and Fishmongers	Fish & Chip Potato Dealers.	Miscellaneous	Total.			
No. of Workshops on Register	...	...	41	65	126	45	88	78	13	36	45	128	4	23	7	14	5	8	8	5	42	15	32	5	13	11	21	8	...	...	27	913		
No. of Rooms	...	...	44	101	152	50	102	88	21	53	49	147	4	28	11	23	9	12	10	8	55	20	38	6	13	20	41	16	...	...	36	1157		
No. of Un'rground R'ms	...	...	...	...	2	2	9	12	1	...	1	8	...	...	2	...	...	14	2	...	...	10	...	...	1	...	...	...	...	...	...	64		
No. of Males employed	...	...	40	282	...	...	181	177	46	143	136	124	11	85	19	49	20	13	17	16	6	43	67	3	48	50	77	22	...	...	70	1745		
No. of Females employed	...	...	60	75	419	151	...	...	3	...	...	162	...	...	9	...	6	...	2	...	189	...	26	...	5	...	6	...	...	...	7	1120		
No. employing both sexes	...	...	9	35	...	...	...	...	1	...	...	5	...	...	1	...	2	...	6	2	34	12	23	5	...	10	35	9	...	...	26	580		
No. of rooms badly lighted	...	...	...	43	100	33	28	34	7	30	33	56	3	18	5	16	4	8	...	...	...	...	...	...	...	...	...	...	...	...	...	...	10	
No. Rooms badly ventilated	...	...	...	2	1	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	2	1	...	...	...	...	...	...	...	...	...	...	1	
No. overcrowded	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
No. require lime-washing or cleansing	...	...	1	3	3	...	1	4	1	...	...	4	2	...	...	2	...	...	...	...	...	...	...	1	...	...	...	3	...	...	...	...	...	26
No. of dirty floors or windows	...	...	1	13	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
No. of yards and cellars foul	...	...	6	2	3	3	...	...	...	...	...	1	1	...	...	1	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	17
No. of yards and floor surfaces in bad repair	1	3	2	1	2	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	23
No. of drains defective	...	...	1	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	1	...	...	...	...	...	...	...	25
No. of Drains blocked	...	...	1	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	10
No. of insufficient downspout drainage	...	...	...	4	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	12
No. of defective slop pipes	1	2	1	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	2	1	...	1	...	10
No. defective gullies	...	...	1	1	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	2	...	...	...	6
No. gullies inside food places	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4	...	...	...	8
	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	2





TABLE XLI.

*Copy of Table sent to the Home Office at the request of the Secretary of State.*  
 ANNUAL REPORT OF MEDICAL OFFICER OF HEALTH FOR 1905  
 for the County Borough of Blackburn.

### Factories, Workshops, Laundries, Workplaces, and Homework.

#### 1.—Inspection.

Including Inspections made by Sanitary Inspectors or Inspectors of Nuisances

Premises.	Number of		
	Inspections.	Written Notices.	Prosecutions
Factories .. .. . (including Factory Laundries)	203	47	...
Workshops ... .. (including Workshop Laundries)	272	89	...
Workplaces ... ..	46	18	...
Homeworkers' Premises ... ..	62	6	...
Total ... ..	583	160	...

#### 2.—Defects Found.

Particulars.	No. of defects.			No. of prosecutions
	Found	Remedied	Referred to H.M. Inspector	
<i>Nuisances under the Public Health Acts—</i>				
Want of cleanliness ... ..	95	95	...	...
Want of ventilation ... ..	10	10	...	...
Overcrowding ... ..	1	1	...	...
Want of drainage of floors ... ..	...	...	...	...
Other nuisances ... ..	93	93	...	...
Sanitary accommodations {	insufficient ... ..	79	...	...
	unsuitable or defective	123	...	...
	not separate for sexes	9	...	...
<i>Offences under the Factory and Workshop Act—</i>				
Illegal occupation of underground bakehouse... (S. 101)	9	{ closed 5 remedied 4	...	...
Breach of special sanitary requirements for bakehouses (SS. 97 to 100) ... ..	5	5	...	...
Failure as regard lists of outworkers (S. 107)	...	...	...	...
Giving out work to be done { unwholesome (S. 108) in premises which are infected (S. 110) ... ..	...	...	...	...
Allowing wearing apparel to be made in premises infected by scarlet fever or smallpox (S. 109)	...	...	...	...
Other offences ... ..	...	...	...	...
Total ... ..	424	256	...	...

TABLE XLI.—*continued.*  
3. - OTHER MATTERS.

Class.	Number.	
Matters notified to H.M. Inspector of Factories :—		
Failure to affix Abstract of the Factory and Workshop Act (s. 133) .....	15	
Action taken in matters referred by H.M. Inspector as remediable under the Public Health Act, but not under the Factory Act (s. 5) )	Notified by H.M. Inspector	74
Other .....	Report (of action taken) sent to H.M. Inspectors	74
Underground Bakehouses (s. 101 :—		
Certificates granted during the year 1905 ...	4	
In use at the end of the year 1905 .....	7	
Homework :—	Number of	
List of Outworkers (s. 107).	Lists.	Outworkers.
Lists received .....	21	60
Addresses of { forwarded to other Authorities	2	2
outworkers { received from other Authorities	Nil.	Nil.
Homework in unwholesome or infected premises :—	Wearing Apparel.	Other.
Notices prohibiting homework in unwholesome premises (s. 108) .....	...	...
Cases of infectious disease notified in homeworkers' premises .....	...	...
Orders prohibiting homework in infected premises (s. 110) .....	...	...
Workshops on the Register (s. 131) at the end of 1905 .....	777	
Important classes of workshops, such as workshop bakehouses, may be enumerated here. { Workshop Bakehouses.. .....	67	
Total number of Workshops on Register	844	

## COTTON OPERATIVES' MORTALITY STATISTICS.

The following Tables (Nos. XLII. to LV.) show the death-rates amongst those persons engaged in the Cotton Industry of Blackburn for several years, 1896 to 1904 and also for the year 1905. The rates for the years 1893 to 1896 have been calculated from the 1891 census figures. The rates for the years 1897 to 1901 have been calculated from the 1901 census figures, including those operatives who were formerly in the cotton trade but who had retired.

They are as follow:—

The rates for the years 1902 to 1905 have been calculated from the 1901 census figures also, but with the addition of those cotton operatives who were included with the extension of the Perrough in 1901.

The compilation of these statistics year by year is proving of great value in enabling one to draw certain conclusions based upon the observations of a considerable number of years.

The age-periods in these Tables represent the five decades from 15 to 65 years, and the period "65 years and upwards."

The most useful figures are those given in the various decades from 15 to 65 years, since in the age-period "65 years and upwards" the number of deaths is large owing to the inclusion of retired cotton operatives. This affects males more than females.

In the following figures the cotton operatives have been divided into these four groups:—

- I. Weavers.
- II. Spinners.
- III. Winders, Warpers, etc.
- IV. Cardroom-hands.

Also the deaths and death-rates have been calculated from three points of view, namely :—

- (a) Death-rates for 1905, compared with death-rates for the years 1889 to 1905.
- (b) Phthisis death-rates for 1905, compared with Phthisis death-rates for the years 1889 to 1905.
- (c) Death-rates from Other Respiratory Diseases for 1905, compared with the death-rates from Other Respiratory Diseases for the years 1889 to 1905.

In comparing Table XLV. with Table LI., it will be seen that the year 1905 presents a favourable record against the years 1889 to 1905.

A comparison between Tables XLVII. and LIII. shows that the improvement in the Phthisis death-rate amongst the Cotton Operatives in being maintained.

Tables XLIX. and LV. respectively show a similar improvement in the death-rates from Respiratory Diseases other than Phthisis amongst the Cotton Operatives of Blackburn.

TABLE XLII.—DEATHS OF MALE AND FEMALE WEAVERS FOR THE YEARS 1896—1905.

Age Periods.	1896		1897		1898		1899		1900		1901		1902		1903		1904		1905		TOTAL.	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
15 to 25 . . . . .	10	27	17	28	8	22	32	17	7	23	12	23	8	21	7	20	8	16	8	14	117	211
25 to 35 . . . . .	11	16	12	13	10	16	11	20	10	23	7	25	12	10	9	18	2	12	9	19	93	172
35 to 45 . . . . .	8	16	9	11	14	22	28	11	9	16	12	14	11	15	8	11	6	13	10	17	115	146
45 to 55 . . . . .	14	6	7	3	18	7	24	4	15	4	7	6	13	10	14	6	14	11	9	7	135	64
55 to 65 . . . . .	14	6	14	1	18	6	16	5	15	10	17	5	16	7	14	4	25	4	14	7	163	55
65 and upwds. . . . .	27	2	20	—	17	2	47	4	34	6	27	6	22	8	21	6	19	5	30	7	264	46



TABLE XLIII.—DEATH RATES OF MALE AND FEMALE WEAVERS FOR THE YEARS 1896—1905.

Age Periods.	1896		1897		1898		1899		1900		1901		1902		1903		1904		1905		Total.	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
15 to 25...	2.8	4.0	5.9	3.8	2.7	3.0	11.1	2.3	2.4	3.1	4.1	3.1	2.7	2.8	2.4	2.7	2.7	2.1	2.7	1.9	3.9	2.8
25 to 35...	6.5	4.2	6.6	3.0	5.5	3.7	6.0	4.6	5.5	5.3	3.8	5.7	6.5	2.2	4.9	4.1	1.0	2.7	4.9	4.2	5.1	3.9
35 to 45...	8.1	9.7	7.1	5.2	11.1	10.4	22.3	5.2	7.1	7.5	9.3	6.6	8.6	7.0	6.3	5.1	4.7	6.1	7.3	7.9	9.1	7.0
45 to 55...	22.6	9.4	10.0	4.2	25.7	9.9	34.3	5.6	21.4	5.6	10.0	8.4	18.3	14.2	19.7	8.4	19.7	15.4	12.7	9.8	19.4	9.0
55 to 65...	51.1	36.5	32.3	4.6	41.5	27.6	36.9	23.0	34.6	46.0	39.2	23.0	36.8	31.9	32.2	18.2	57.6	18.2	32.2	31.9	39.4	26.0
65 & upds.	267.3	83.3	108.6	...	92.3	20.0	255.4	40.0	184.7	60.0	146.7	60.0	119.5	80.0	114.1	60.0	103.2	50.0	163.1	70.0	155.4	52.3

The following rates have been worked from the 1901 Census figures, including the retired operatives and those operatives who came in with the extension of the Borough in 1901.

**TABLE XLIV.—DEATHS DURING 1905.**

Age Periods.	Weavers.	Spinners.	Warpers, Winders, &c.	Card Room Hands	Borough.
15 to 25.....	22	1	6	2	89
25 to 35.....	28	2	9	...	144
35 to 45.....	27	4	6	3	151
45 to 55.....	16	7	9	4	231
55 to 65.....	21	5	8	2	291
65 and upwards ...	37	10	6	2	451

**TABLE XLV.—DEATH RATES for 1905.**

Age Periods.	Weavers.	Spinners.	Warpers, Winders, &c.	Card Room Hands	Borough.
15 to 25.....	2.1	1.5	2.4	3.0	3.1
25 to 35.....	4.5	4.7	5.3	0.0	6.5
35 to 45.....	7.7	7.6	5.5	6.7	8.1
45 to 55 .....	11.2	20.5	15.1	19.1	18.2
55 to 65.....	32.1	34.2	37.9	26.3	37.8
65 and upwards ...	130.2	119.0	64.5	47.6	99.3

TABLE XLVI.—PHTHISIS, 1905.  
DEATHS.

Age Periods.	Weavers.	Spinners.	Winders, Warpers, &c.	Card Room Hands	Borough.
15 to 25.....	7	1	2	...	22
25 to 35.....	7	...	3	...	33
35 to 45.....	7	1	1	2	33
45 to 55.....	2	...	..	...	24
55 to 65.....	...	...	...	...	11
65 and upwards.....	...	...	...	...	1
Total.....	23	2	6	2	124

TABLE XLVII.—DEATH RATES FOR 1905.

Age Periods.	Weavers.	Spinners.	Winders, Warpers, &c.	Card Room Hands	Borough.
15 to 25.....	0·6	1·5	0·8	0·0	0·7
25 to 35.....	1·1	0·0	1·7	0·0	1·4
35 to 45.....	2·0	1·9	0·9	4·4	1·7
45 to 55.....	1·4	0·0	0·0	0·0	1·8
55 to 65.....	0·0	0·0	0·0	0·0	1·4
65 and upwards.....	0·0	0·0	0·0	0·0	0·2
All Ages over 15 years...	1·0	0·9	0·9	1·0	1·3

TABLE XLVIII.—RESPIRATORY DISEASES OTHER  
THAN PHTHISIS, 1905.

## DEATHS.

Age Periods.	Weavers.	Spinners.	Winders, Warpers, etc.	Card Room Hands.	Borough.
15 to 25 .....	1	0	0	0	10
25 to 35 .....	3	1	0	0	18
35 to 45 .....	1	1	1	1	16
45 to 55 .....	3	0	1	1	45
55 to 65 .....	7	1	1	0	73
65 and upwards.....	6	1	1	1	104
Total .....	21	4	4	3	266

TABLE XLIX.—DEATH RATES for 1905.

Age Periods.	Weavers.	Spinners.	Winders, Warpers, etc.	Card Room Hands.	Borough.
15 to 25 .....	0·09	0·0	0·0	0·0	0·3
25 to 35 .....	0·4	2·4	0·0	0·0	0·8
35 to 45 .....	0·2	1·9	0·9	2·2	0·8
45 to 55 .....	2·1	0·0	1·6	4·7	3·5
55 to 65 .....	10·7	6·8	4·7	0·0	9·5
65 and upwards .....	21·1	11·9	10·7	23·8	22·9
All ages over 15 years ...	0·9	1·8	0·6	1·6	2·8

TABLE L.—DEATHS from all causes from  
1889 to 1905.

Age Periods.	Weavers.	Spinners.	Winders, Warpers, &c.	Card Room Hands	Borough.
15 to 25.....	641	64	177	36	1912
25 to 35 .....	470	82	176	44	2308
35 to 45.....	461	89	154	63	3290
45 to 55 .....	338	120	147	64	3950
55 to 65 . . . . .	409	108	99	33	4971
65 & upwards.....	474	193	144	30	6964

TABLE LI.—DEATH RATES 1889 to 1905.

Age Periods.	Weavers.	Spinners.	Winders, Warpers, &c.	Card Room Hands	Borough.
15 to 25 .....	3·7	5·7	4·2	3·2	4·0
25 to 35 .....	4·4	11·6	6·1	6·1	6·1
35 to 45.....	7·7	10·0	8·4	8·3	10·4
45 to 55.....	14·0	20·7	14·6	18·0	18·3
55 to 65 . . . . .	36·8	43·5	27·6	25·5	38·0
65 & upwards .....	98·1	135·1	91·0	42·0	90·8

TABLE LII.—PHTHISIS, 1889—1905.  
DEATHS.

Age Periods.	Weavers.	Spinners.	Winders, Warpers, &c.	Card Room Hands	Borough.
15 to 25.....	185	16	49	10	504
25 to 35.....	238	26	65	17	520
35 to 45.....	96	24	27	16	595
45 to 55.....	41	11	11	10	352
55 to 65.....	26	2	3	9	163
65 and upwards .....	3	2	3	0	38
Total .....	589	81	158	62	2172

TABLE LIII.—DEATH RATES, FOR 1889 TO 1905.

Age Periods.	Weavers.	Spinners.	Winders, Warpers, &c.	Card Room Hands	Borough.
15 to 25.....	1.0	1.4	1.1	0.9	1.0
25 to 35.....	2.2	3.7	2.2	2.3	1.3
35 to 45.....	1.6	2.7	1.5	2.1	1.8
45 to 55.....	1.7	1.9	1.0	2.8	1.6
55 to 65.....	2.3	0.8	0.8	6.9	1.2
65 and upwards.....	0.6	1.4	1.9	0.0	0.4
All Ages over 15 years	1.5	2.2	1.5	1.9	1.3



TABLE LIV.—RESPIRATORY DISEASES OTHER  
THAN PHTHISIS, 1889-1905.

## DEATHS.

Age Periods.	Weavers	Spinners	Winders, Warpers, etc.	Card Room Hands.	Borough
15 to 25.....	69	10	27	4	306
25 to 35.....	66	20	15	5	409
35 to 45.....	89	19	37	11	719
45 to 55.....	108	37	39	26	1145
55 to 65.....	138	44	29	8	1568
65 and upwards.....	121	53	38	11	1934
Total.....	591	183	185	65	6081

TABLE LV.—DEATH RATES FOR 1889—1905.

Age Periods.	Weavers	Spinners	Winders, Warpers, etc.	Card Room Hands	Borough
15 to 25.....	0.4	0.9	0.6	0.3	0.6
25 to 35.....	0.6	2.8	0.5	0.7	1.0
35 to 45.....	1.5	2.1	2.0	1.4	2.2
45 to 55.....	4.4	6.4	3.8	7.3	5.3
55 to 65.....	12.4	17.7	8.0	6.2	12.0
65 and upwards.....	25.0	37.1	24.0	15.4	25.0
All ages over 15 years ...	1.5	4.9	1.7	2.1	3.7

## FEVER HOSPITAL.

The Fever Hospital is situated in Longshaw Lane, on an open site of  $10\frac{1}{2}$  acres, and at a height of 560 feet above sea level.

Full particulars appeared in my Annual Report for 1903, respecting cost, number of beds, buildings, etc.

The following Table gives an analysis of the number of cases admitted to the Fever Hospital during 1905, the number of deaths, and other details.

It will be observed that the average number of beds occupied was 126, which is 83.5 more than during 1904.

The average number of days occupied in the Hospital by the patients was 35.8, which is 6.7 less than for 1904.

There was a greater case-mortality of 1.03 from Scarlet Fever during 1905 than in the previous year. There was a smaller case mortality of 5.51 from Enteric Fever during 1905 than during 1904.

There has been an outbreak of Measles amongst the Scarlet Fever patients owing to two imported cases of this disease. It proved very troublesome. Smaller outbreaks of Chickenpox and Mumps also occurred.

Five members of the Hospital staff contracted Scarlet Fever during the year, and all recovered.

The Hospital has maintained its reputation as a life-saving institution. Many cases recovered there who could not have been nursed successfully at their own homes.

The strain upon the Hospital has been exceedingly great during the whole year, owing to the unprecedented number of cases of Scarlet Fever admitted.

During the year arrangements have been made by which the building in which the brougham ambulance is kept, can be heated.

Also similar heating apparatus has been installed so that a larger quantity of hot water can be obtained in the administrative block, and so that certain passages and bedrooms can be heated.

The usual repairs have been carried out in various portions of the buildings where necessary.

The kitchen garden has been enlarged.

I have again followed the plan initiated in my Annual Report for 1903, of giving a fuller description than had been included previously of the cases treated in Hospital, dealing with each disease separately.

TABLE LVI.—FEVER HOSPITAL.

Disease.	Patients remaining in hospital on January 1st, 1905.			Patients admitted and discharged in 1905.			Patients remaining in hospital on January 1st, 1906.			Analysis of cases admitted in 1905, including those admitted in 1905 and discharged in 1906.					Average No. of beds occupied during 1905.	Cases removed expressed as a percentage of total notified.
	Total	Recov-ered.	Died.	Total	Recov-ered.	Died.	Total	Recov-ered.	Died.	Total	Recov-ered.	Died.	Case M'tality	Average days in Hospital.		
Scarlet Fever ..	105	104	1	1008	960	48	99	95	4	1107	1055	52	4.6	39.4	119.6	71.6 per cent.
Enteric Fever...	12	12	0	37	32	5	12	12	0	49	44	5	10.2	37.9	5.0	62.2 "
Diphtheria.....	0	0	0	3	3	0	1	1	0	4	4	0	...	41.0	0.3	
Other Diseases	0	0	0	18	16	2	2	2	0	20	18	2	10.0	25.1	1.1	
Totals	117	116	1	1066	1011	55	114	110	4	1180	1121	59	6.7	35.8	126.0	

The above Table includes 3 cases admitted from outside the Borough during 1905.

## SCARLET FEVER.

The total number of cases admitted during the year as Scarlet Fever was 1,120; of these 13 were negative, leaving a total of 1,107 true cases. Of these 1,107 cases, 3 were from districts outside the Borough.

The following complications or sequelæ occurred amongst the above patients:—

<i>Complications.</i>	<i>No. of Cases.</i>
Otorrhœa .....	223
Mastoid disease .....	9
Rhinorrhœa .....	197
Excoriation of skin—	
(a) Nose .....	52
(b) Angles of mouth .....	22
(c) Ear .....	6
(d) Cheek .....	2
(e) Lip .....	2
(f) Chin .....	2
Nephritis .....	33
Albuminuria .....	182 (141 slight.)
Cervical adenitis .....	113
(a) non-suppurative .....	92
(b) suppurative .....	21
Convalescent tonsillitis .....	42
Bronchitis .....	31
Pneumonia .....	17
Pleurisy .....	3
Laryngitis .....	3
Rheumatism .....	20
Endocarditis .....	11
Conjunctivitis .....	13
Corneal ulcer .....	2
Blepharitis .....	4
Cerebral meningitis .....	5

Abscesses .....	13
(a) elbow, 1.	
(b) axilla, 3.	
(c) scalp, 2.	
(d) cheek, 2.	
(e) gluteal region, 2.	
(f) leg, 1.	
(g) submaxillary region, 2.	
Enteritis .....	12
Ulcerative stomatitis .....	6
Neuritis (sciatic) .....	1
Necrosis lower jaw .....	1
Parotitis (non-suppurative) .....	1

The cases of Otorrhœa formed 20.1 per cent., and those of Rhinorrhœa 17.8 per cent. of the cases admitted.

Relapses occurred in 2 cases, as follows:—

Case 1.—W. A. (male), aged 3 years. First attack, August 17th. Sore throat and rash. On admission August 17th the papillæ of tongue were infected, throat infected, well marked erythematous rash, trunk and extremities. Desquamation took place. On October 6th the throat was infected, and a well-marked erythematous rash appeared over the trunk and extremities.

In this case the relapse occurred 50 days after the beginning of the first attack.

Case 2.—T. R. (male), 7 years. First attack, October 20th; vomiting; October 22nd, rash. On admission, October 23rd, tongue papillæ infected, throat infected, and fading erythematous rash trunk, but well-marked rash on extremities.

Desquamation took place. On November 18th there was some infection of the throat. November 19th the tongue was furred in the centre and the papillæ were infected. There was a well-marked rash on the trunk and extremities. The relapse occurred 28 days after the onset of the first attack.



The 13 negative cases of Scarlet Fever were as follows :—  
Catarrhal Tonsillitis, 4 ; Eczema, 1 ; German Measles, 6 ;  
Measles, 2.

Only one other case of German Measles occurred, viz. :—

T. T. (male), 10 years ; well-marked Scarlet Fever on admission September 9th. On September 28th the throat was infected, and the glands of the neck enlarged on the left side. October 2nd, a macular rash appeared on the trunk, extremities, and face. Infection was probably conveyed from A. H. (female), 2 years ; admitted to same ward on September 17th, with German Measles (case negative).

No other cases occurred from infection from the other 5 cases of German Measles.

Eight cases of Post-Scarlatinal Diphtheria occurred, particulars of which are given in a table. One death occurred out of these eight.

Four cases of Whooping Cough occurred amongst the Scarlet Fever patients during 1905, as follows :—

(1) M. A. (female), 4 years ; admitted with Scarlet Fever, February 20th, also incubating Whooping Cough on admission, the latter disease appearing on February 25th.

(2) S. B. (male), 5 years ; admitted with Scarlet Fever, May 22nd. Whooping Cough started June 13th, incubating the latter disease on admission.

(3) R. B. (male), 1 year 9 months ; admitted with Scarlet Fever August 5th. Whooping Cough commenced September 3rd.

(4) E. S. (female), 3 years ; admitted with Scarlet Fever and Whooping Cough August 28th.

Also a case of Mumps occurred as follows:—R. T. (male), aged 7 years; admitted with Scarlet Fever November 27th. Onset of Mumps. December 17th. incubating latter disease on admission.

One case of Enteric Fever occurred, viz.:—W. E. (male), 4 years; admitted with Scarlet Fever. January 26th. developed Enteric Fever February 3rd.

### VARICELLA, 1905.

There had been several cases of Varicella in Hospital during November and December, 1904, and it was from J.T., male, aged 3 years, who developed Varicella on January 10th, 1905, that infection was carried on in 1905.

The Table shows how infection was produced afterwards.

The following explanations are necessary. J.T. was in Ward V., when the Varicella rash appeared, on January 10th.

R.T.	was transferred from V. to IV. on January 18th.
W.T.	.. V. to IV. on January 13th.
W.E.	.. V. to IV. on January 24th.
H.P.	.. V. to IV. on January 24th.
M.B.	., V. to IV. on February 26th.
M.C.	.. V. to IV. on February 7th.

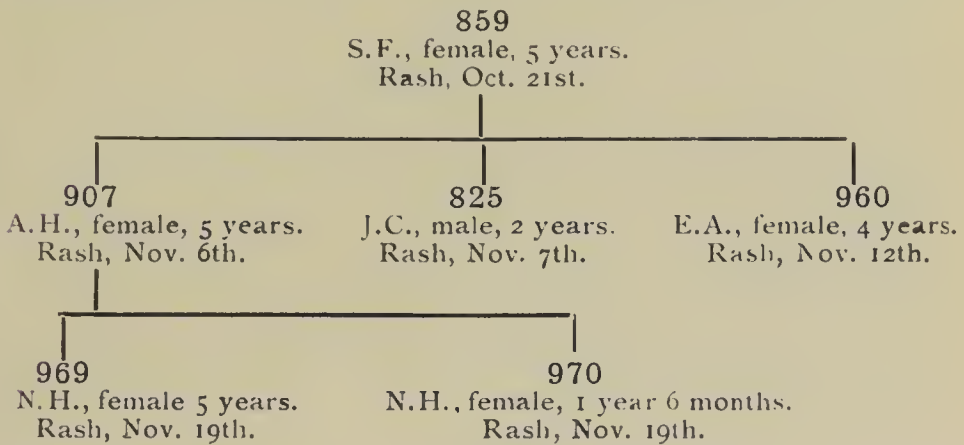
T. A., Jas. R., Jno. R., J. J., and E. H. were in Ward I. when infection was received.

S.A. was transferred from V. to I. January 20th. and received infection in Ward V.

W.E. was incubating the disease when transferred to Ward IV. on January 24th; his rash appeared on February 11th.

Varicella again broke out on October 21st. A girl, aged 5 years, with Scarlet Fever, developed the rash on October 21st, after being in Hospital 15 days, and probably was incubating the disease on admission. Five other cases afterwards occurred.

The following Table shows how infection was probably produced.



There were 21 cases of Measles during 1905. Two cases of Measles were sent in as Scarlet Fever, and Measles afterwards occurred in 19 cases of Scarlet Fever admitted during 1905.

Particulars regarding these 19 cases, and the second case of Measles sent in as Scarlet Fever, are given in the accompanying Table:—

52 deaths occurred out of the 1,120 cases of Scarlet Fever admitted during 1905, giving a case-mortality of 4.6 per cent. This percentage has been calculated on the 1,107 true cases. A similar percentage for the year 1904 was 3.2.

44 return cases occurred during 1905. "Return cases" is a term employed to indicate the re-appearance of Scarlet Fever infection in a household within one month after the return home of a recent inmate of the Hospital.

The question of these return cases was discussed fully in my Annual Report for 1903

The following are particulars of the 44 return cases of Scarlet Fever which occurred during 1905.

I. *Cases of Scarlet Fever occurring in a house within one month after the discharge from Hospital of a previous case.* Forty-four of such return cases occurred during 1905. The periods respectively between the first case returning home and the second case occurring were:—

<i>Period.</i>	<i>Number of Cases.</i>
1 day .....	1
2 days .....	3
3 .. .....	3
4 .. .....	2
5 .. .....	2
6 „ .....	6
7 .. .....	7
8 .. .....	2
9 .. .....	1
10 .. .....	2
11 .. .....	2
12 „ .....	1
13 „ .....	2
14 „ .....	1
15 .. .....	1
16 .. .....	2
17 .. .....	1
18 .. .....	1
22 .. .....	1
23 .. .....	1
24 „ .....	1
25 .. .....	1

Table LVII. — RETURN CASES OF SCARLET FEVER.

INFECTING CASE.						INFECTED CASE.				
Register No.	Description.	Date of Admission.	Date of Discharge.	No. of Days in Hospital.	Complications.	Register No.	Description.	Date of Onset.	Date of Admission.	Days' Interval. A*
18	F. L., female, 5 years	Jan. 5	Feb. 14	41	.....	126	S. L., male, 2½ years	Feb. 21	Feb. 22	7
21	M. C., female 3 years	" 9	" 17	40	Left Otorrhœa, Slight Rhinorrhœa	136	T. C., male, 7½ years	" 24	" 27	7
4	E. L., female, 7 years	" 2	" 17	47	.....	141	E. L., female, 12 years	" 24	" 28	7
						142	J. L., male, 4 years	" 24	" 28	7
132	W. G., male, 8 years	Feb. 24	Mar. 25	30	.....	...	H. G., male, 6 years	Mar. 28	Not admitted	3
152	H. H., male, 11 years	Mar. 7	April 4	29	.....	250	F. H., male, 6 years	April 7	Apr. 10	3
35	C. R., female, 6 years	Jan. 19	Mar. 31	72	Suppurative Cervical Adenitis, 3 incisions and drainage	...	T. R., male 13 years	" 17	Not admitted	17

A\*—Days' interval between return home of infecting case and onset of the disease in infected case.

Table LVII.—RETURN CASES OF SCARLET FEVER. — continued.

INFECTING CASE.					INFECTED CASE.						
Register No.	Description.	Date of Admission.	Date of Discharge.	No. of Days in Hospital.	Complications.	Register No.	Description.	Date of Onset.	Date of Admission.	Days' Interval. A*	Remarks.
157	E. H., male 2 years	Mar. 9	Apl. 14	37	Bronchitis	321	J. H., male, 11 years	Apl. 29	May 1	15	
172	L. R., male, 11 years	" 14	" 22	40	.....	332	C. R., female, 3 years	May 3	May 4	11	
178	A. B., male, 11 years	" 15	" 29	46	.....	334	J. B., female, 13 years	" 2	" 5	3	
226	P. H., male, 4 years	Apl. 1	May 2	32	.....	355	J. H., female, 5 years	" 8	" 10	6	
236	C. R., male, 13 years	" 3	" 9	36	.....	385	H. R., male, 15 years	" 16	" 22	7	
229	G. P., female, 2 years	" 1	June 6	67	Profuse Rhinorrhœa Double Otorrhœa	447	E. P., female, 8 years	June 8	June 13	2	
310	J. McD., male, 6 years	" 27	May 30	34	Slight Albuminuria	460	M. McD., female, 4 years	" 17	" 19	18	



Table LVII.—RETURN CASES OF SCARLET FEVER. — continued.

INFECTING CASE.							INFECTED CASE.				
Register No.	Description.	Date of Admission.	Date of Discharge.	No. of Days in Hospital.	Complications.	Register No.	Description.	Date of Onset.	Date of Admission.	Days Interval. A*	Remarks.
353	J. H., female 5 years	May 10	June 20	42	.. .. .	493	J. H., male, 13 years	July 1	July 4	11	
399	E. S., female, 5 years	.. 26	.. 27	33	Rhinorrhœa, slight Albuminuria	521	R. S., male, 7 years	.. 10	.. 11	13	
422	A. B., female, 5 years	June 1	July 7	37	.....	592	H. B., male, 4 years	.. 23	.. 24	16	
522	F. C., female, 6 years	July 11	Aug. 8	29	... ..	701	E. C., female, 10 years	Aug. 14	Aug. 17	6	
491	J. H., female, 11 years	.. 4	July 29	26	Slight Albuminuria	...	N. H., female, 7 years	.. 22	Not admitted	24	
516	E. O., male, 9 years	.. 11	Aug. 8	29	.....	741	L. O. female, 8 years	.. 31	Sept. 1	23	
512	E. L., female, 2 years	.. 10	.. 29	51	Profuse Rhinorrhœa	762	H. L., male, 4 years	Sept. 6	.. 8	8	

Table LVII. — RETURN CASES OF SCARLET FEVER. — continued.

INFECTING CASE.						INFECTED CASE.					
Register No.	Description.	Date of Admission.	Date of Discharge.	No. of Days in Hospital.	Complications.	Register No.	Description.	Date of Onset.	Date of Admission.	Days' Interval. A*	Remarks.
498	M. F., female, 6 years	July 5	Aug. 29	56	Sores angles of mouth and nose	765	F. F., male, 10 years	Sept. 8	Sept. 9	10	
612	P. W., female, 7 years	" 28	Sept. 6	41	Slight Albuminuria	763	P. W., female, 6 years	" 8	" 9	2	
614	W. D., male, 6 years	" 28	Aug. 29	33	Eczematous condition chin	772	H. D., male, 4 years	" 10	" 12	12	
438	T. B., male, 3 years	June 8	" 29	83	Rhinorrhœa and Double Otorrhœa	...	A. B., female, 1 yr. 5mths.	" 11	Not admitted	13	
534	J. D., Male, 9 years	July 13	Sept. 6	56	... ..	782	A. C., male, 6 years	" 13	Sept. 14	7	
639	J. M., male, 2 years	Aug. 3	" 9	38	Rhinorrhœa, Left Otorrhœa	781	E. M., female, 4 years	" 13	" 14	4	
646	W. G., male, 3 years	" 3	" 2	31	Rhinorrhœa	809	S. G., female, 7 years	" 18	" 20	16	

Table LVII. — RETURN CASES OF SCARLET FEVER. continued.

INFECTING CASE.					INFECTED CASE.						
Register No.	Description.	Date of Admission.	Date of Discharge.	No. of Days in Hospital.	Complications.	Register No.	Description.	Date of Onset.	Date of Admission.	Days' Interval. A*	Remarks.
692	F. D., male, 5 years	Aug. 12	Sept. 15	35	.....	821	M. D., female, 13 years	Sept. 22	Sept. 23	7	
494	H. T., male, 5 years	July 4	" 26	85	Rhinorrhœa and Double Otorrhœa	836	G. T., male, 3 years	" 27	" 28	1	
598	C. S., female, 4 years	" 25	" 22	60	Otorrhœa	837	H. S., male, 2 years	" 28	" 29	6	
757	A. M. female, 10 years	Sept. 5	Oct. 10	36	Sore left nostril	912	A. B., female, 22 years	Oct. 15	Oct. 16	5	
741	L. O., female, 8 years	" 1	" 10	40	Albuminuria	924	E. O., female, 17 years	" 16	" 18	6	
792	M. C., female, 7 years	" 16	" 17	32	.....	948	M. C., female, 1yr. 6mths.	" 23	" 24	6	
699	R. H., female, 10 years	Aug. 15	Sept. 16	33	Left Otorrhœa	945	H. H., male, 2 years	" 8	" 24	22	

Table LVII.—RETURN CASES OF SCARLET FEVER.—continued.

INFECTING CASE.					INFECTED CASE.						
Register No.	Description.	Date of Admission.	Date of Discharge.	No. of Days in Hospital.	Complications.	Register No.	Description.	Date of Onset.	Date of Admission.	Days' Interval. A*	Remarks.
784	R. D., male, 7 years	Sept. 14	Oct. 20	37	Eczematous con- dition skin of left cheek	972	J. D., male, 5 years	Oct. 25	Oct. 27	5	
823	J. R., male, 9 years	" 25	" 24	30	.....	1009	F. R., male, 5 years	Nov. 2	Nov. 4	9	
834	G. B., male, 4 years	" 27	Nov. 3	38	Rhinorrhœa and sore right nostril	1031	E. B., male, 9 years	" 11	" 13	8	
887	A. M., male, 4 years	Oct. 11	" 7	28	Rhinorrhœa	1057	E. M., female, 4 years	" 21	" 22	14	
825	J. C., male, 2 years	Sept. 25	" 24	61	Left Otorrhœa Rhinorrhœa	1072	J. C., male, 13 years	" 26	" 28	2	
911	T. T., male, 12 years	Oct. 16	" 21	37	.....	1094	S. F., female, 6 years	Dec. 1	Dec. 2	10	

Table LVII. — RETURN CASES OF SCARLET FEVER. — continued.

INFECTING CASE.					INFECTED CASE.						
Register No.	Description.	Date of Admission.	Date of Discharge.	No. of Days in Hospital.	Complications.	Register No.	Description.	Date of Onset.	Date of Admission.	Days' Interval. A*	Remarks.
925	H. P., male, 7 years	Oct. 18	Dec. 1	45	Sores right angle of mouth and right nostril	...	J. P., male, 3 years	Dec. 5	Not admitted	4	
903	C. B., female, 6 years	Oct. 14	Dec. 9	57	Rhinorrhœa and Double Otorrhœa	...	M. B., female, 4 years	Dec. 15	Not admitted	6	
1006	M. W., female, 10 years	Nov. 4	Dec. 1	28	Sores nose	...	C. W., male, 2 years	Dec. 26	Not admitted	25	

The following are particulars of secondary cases occurring during the year.

11. *Secondary cases occurring in a house from which the first case was removed to Hospital, but which occurred before discharge from Hospital of the first case.* There were 77 of these during the year. The periods respectively between the onset of the first case and onset of the second were:—

<i>Period.</i>	<i>Number of Cases.</i>
1 day .....	4
2 days .....	3
3 .. .....	11
4 .. .....	12
5 .. .....	3
6 .. .....	5
7 .. .....	4
8 .. .....	3
9 .. .....	4
10 .. .....	3
11 .. .....	1
12 .. .....	2
13 .. .....	6
15 .. .....	2
16 .. .....	2
18 .. .....	5
19 .. .....	1
21 .. .....	2
22 .. .....	1
25 .. .....	1
26 .. .....	1
27 .. .....	1



TABLE LVIII.—Secondary Cases occurring whilst the first Case was in Hospital.

INFECTING CASE.				INFECTED CASE.			Number of days interval between onset of infecting case and onset of infected case
Register No.	Description.	Date of Onset.	Date of Admission	Register No.	Description.	Date of Onset.	Date of Admission.
16	H.S., male, 11 years	Jan. 5th	Jan. 6th	23	L.S., female, 9 years	Jan. 8th	Jan. 9th
49	H.H., male, 7 years	Jan. 12th	Jan. 26th		H.H., male, 2 years	Jan. 27th	not admitted
29	J.G., male, 3 years	Jan. 12th	Jan. 13th	63	A.G., female, 5 years	Jan. 28th	Jan. 30th
12	H.K., male, 8 years	Jan. 1st	Jan. 6th	74	W.K., male, 4 years	Jan. 27th	Feb. 3rd
79	E.B., female, 3 years	Feb. 2nd	Feb. 6th	88	M.B., female, 6 years	Feb. 8th	Feb. 9th
66	E.B., female, 6 years	Jan. 31st	Feb. 1st	91	I.B., female, 5 years	Feb. 9th	Feb. 10th
86	A.S., female, 4 years	Feb. 6th	Feb. 9th	97	A.S., female, 14 years	Feb. 9th	Feb. 13th
106	M.K., female, 6 years	Feb. 13th	Feb. 17th	127	R.K., male, 7 years	Feb. 20th	Feb. 23rd
113	F.R., male, 17 years	Feb. 15th	Feb. 18th	133	F.R., male, 15 years	Feb. 23rd	Feb. 24th
154	C.B., female, 7 years	March 3rd	March 8th	178	A.B., male, 11 years	March 13th	March 15th
208	E.A., female, 10 months	March 23rd	March 24th	220	A.A., male, 8 years	March 27th	March 30th
197	C.H., male, 17 years	March 20th	March 21st	237	D.H., female, 22 years	April 2nd	April 4th

TABLE XVIII. Secondary Cases occurring whilst the first Case was in Hospital. (continued).

INFECTING CASE.				INFECTED CASE.				Number of days interval between onset of infecting case and onset of infected case
Register No.	Description.	Date of Onset.	Date of Admission.	Register No.	Description.	Date of Onset.	Date of Admission.	
249	J. T. H., male, 5 years	April 6th	April 10th	266	L. H., female, 8 years	April 10th	April 13th	4
224	E. H. W., female, 8 years	March 24th	March 31st	271	L. W., female, 11 years	April 11th	April 17th	18
250	F. H., male, 6 years	April 7th	April 10th	289	E. H., female, 19 years	April 20th	April 22nd	13
286	H. J., male, 5 years	April 19th	April 20th	308	E. J., male, 2 years	April 25th	April 26th	6
298	M. E., female, 24 years	April 24th	April 25th	307	T. E., male, 11 years	April 25th	April 26th	1
300	J. S., male, 3 years	April 24th	April 25th	317	B. S., female, 7 years	April 25th	April 29th	1
308	E. J., male, 2 years	April 25th	April 26th	328	E. J., female, 29 years	May 1st	May 2nd	6
337	F. B., male, 5 years	May 4th	May 6th	351	H. B., male, 2 years	May 8th	May 9th	4
285	B. P., female, 4 years	April 19th	April 20th	357	H. P., female, 8 years	May 10th	May 11th	21
313	M. H., female, 8 years	April 24th	April 28th	...	O. H., female, 30 years	May 14th	not admitted	20
346	E. A., female, 5 years	May 3rd	May 18th	372	A. A., female, 4 years	May 16th	May 17th	13
334	I. B., female, 13 years	May 2nd	May 5th	384	W. B., female, 16 years	May 18th	May 20th	16

TABLE LVIII. Secondary Cases occurring whilst the first Case was in Hospital (continued).

INFECTING CASE.				INFECTED CASE.			Number of days interval between onset of infecting case and onset of infected case
Register No.	Description.	Date of Onset.	Date of Admission.	Register No.	Description.	Date of Onset.	
383	F.H., male, 8 years	May 18th	May 20th	423	S.W., female, 12 years	May 31st	13
421	J.M., male, 2 years	May 31st	June 1st	424	P.W., male, 38 years.	June 1st	1
455	S.B., female, 6 years	June 16th	June 17th	470	J.B., male, 8 years	June 22nd	6
473	H.H., male, 5 years	June 22nd	June 24th	478	E.H., female, 2 years	June 26th	4
505	A.L., male, 7 years	July 5th	July 7th	512	E.L., female, 2 yrs. 9 mths	July 9th	4
504	C.H., male, 5 years	July 3rd	July 6th	510	T.H., male, 2½ years	July 8th	5
519	B.A., female, 4 years	July 9th	July 11th	540	F.A., female 2 years	July 11th	2
496	E.W., female, 9 years	July 2nd	July 4th	544	M.W., female, 3 years	July 14th	12
537	L.P., female, 9 years	July 13th	July 14th	558	L.P., female, 7½ years	July 17th	4
550	W.M., male, 4 years	July 13th	July 17th	560	J.M., male, 7 years	July 18th	5
552	R.P., male, 8 years	July 15th	July 17th	605	R.P., male, 4 years	July 25th	10
566	B.C., female, 8 years	July 18th	July 19th	607	A.C., female, 6 years	July 25th	7

TABLE LVIII. Secondary Cases occurring whilst the first Case was in Hospital, (continued).

INFECTING CASE.				INFECTED CASE.				Number of days interval between onset of infecting case and onset of infected case
Register No.	Description.	Date of Onset.	Date of Admission.	Register No.	Description.	Date of Onset.	Date of Admission.	
518	E.E., female, 10 years	July 9th	July 11th	633	E.E., female, 5 years	July 31st	Aug. 1st	22
637	F.W., male, 2 years	Aug. 2nd	Aug. 2nd	642	E.W., female, 6 years	Aug. 3rd	Aug. 3rd	1
602	F.P., male, 7 years	July 25th	July 26th	652	A.P., female, 9 years	Aug. 3rd	Aug. 4th	9
585	W.L., male, 4 years	July 22nd	July 23rd	657	E.L., female, 2 years	Aug. 4th	Aug. 5th	13
615	J.C., male, 10 years	July 28th	July 28th	655	J.S., male, 12 years	Aug. 5th	Aug. 5th	8
641	W.M., male, 10 years	Aug. 1st	Aug. 3rd	666	R.M., male, 5 years	Aug. 5th	Aug. 7th	4
673	E.W., female, 16 months	July 30th	Aug. 8th	672	G.W., female, 5 years	Aug. 6th	Aug. 8th	7
662	M.L., female, 7 years	Aug. 5th	Aug. 7th	675	N.L., male, 5 years	Aug. 8th	Aug. 9th	3
638	H.C., male, 13 years	Aug. 2nd	Aug. 2nd	689	A.C., female, 4 years	Aug. 11th	Aug. 11th	9
600	S.B., male, 27 years	July 23rd	July 25th	711	J.B., female, 19 years	Aug. 13th	Aug. 21st	21
723	J.P., male, 7 years	Aug. 21st	Aug. 23rd	728	L.P., female, 11 years	Aug. 25th	Aug. 25th	4
712	W.W., female, 9 years	Aug. 18th	Aug. 21st	749	J.W., male, 6 years	Aug. 31st	Sept. 4th	13

TABLE LVIII. Secondary Cases occurring whilst the first Case was in Hospital, (continued).

INFECTING CASE.			INFECTED CASE.			Number of days interval between onset of infecting case and onset of infected case		
Register No.	Description.	Date of Onset.	Date of Admission.	Register No.	Description.		Date of Onset.	Date of Admission.
732	A.B., male 15 years	Aug. 25th	Aug. 28th	742	F.B., male, 5 years	Aug. 31st	Sept. 1st	7
744	F.T., female 3 years	Aug. 31st	Sept. 2nd	756	M.T., female, 5 years	Sept. 3rd	Sept. 15th	3
726	W.K., male, 9 years	Aug. 23rd	Aug. 25th	769	A.K., female, 4 years	Sept. 10th	Sept. 11th	18
706	E.K., male, 8 years	Aug. 17th	Aug. 18th	770	M.K., female 11 years	Sept. 11th	Sept. 12th	25
783	M.C., female, 9 years	Aug. 31st	Sept. 14th	814	K.C., female, 7 years	Sept. 12th	Sept. 22nd	12
774	S.C., male, 9 years	Sept. 10th	Sept. 12th	792	M.C., female, 7 years	Sept. 14th	Sept. 16th	4
815	A.C., female, 11 years	Sept. 21st	Sept. 22nd.	825	J.C., male, 2 years	Sept. 25th	Sept. 25th	4
770	M.K., female, 12 years	Sept. 11th	Sept. 12th	831	A.K., female, 13 years	Sept. 26th	Sept. 27th	15
812	H.W., female, 7 years	Sept. 16th	Sept. 21st	826	E.W., male 11 years	Sept. 23rd	Sept. 25th	7
831	A.K., female, 13 years	Sept. 26th	Sept. 27th	842	C.K., male 16 years	Sept. 29th	Sept. 29th	3
852	H.K., male, 4 years	Oct. 1st	Oct. 3rd	857	F.K., female, 6 years	Oct. 3rd	Oct. 5th.	2



TABLE LVIII. Secondary Cases occurring whilst the first Case was in Hospital (continued).

INFECTING CASE.				INFECTED CASE.				Number of days interval between onset of infecting case and onset of infected case
Register No.	Description.	Date of Onset.	Date of Admission.	Register No.	Description.	Date of Onset.	Date of Admission.	
856	W.C., male, 5 years	Oct. 3rd	Oct. 5th	874	D.C., female 2 years	Oct. 6th	Oct. 7th	3
871	J.E., male, 4 years	Oct. 4th	Oct. 6th	878	E.E., female, 8 years	Oct. 8 h	Oct. 9th	4
853	W.M., male, 2 years	Oct. 2nd	Oct. 4th	887	A.M., male, 4 years	Oct. 11th	Oct. 11th	9
916	E.D., female, 18 years	Oct. 14th	Oct. 17th	936	L.D., female, 12 years	Oct. 19th	Oct. 21st	5
930	H.S., female, 6 years	Oct. 18th	Oct. 20th	940	S.S., male, 9 years	Oct. 21st	Oct. 23rd	3
941	C.R., female, 12 years	Oct. 20th	Oct. 23rd	958	A.R., female, 19 years	Oct. 23rd	Oct. 25th	3
940	S.S., male, 9 years	Oct. 21st	Oct. 23rd	993	M.S., female, 10 years	Nov. 1st	Nov. 2nd	11
924	N.O., female, 17 years	Oct. 16th	Oct. 18th	1010	F.O., male, 16 years	Nov. 4th	Nov. 6th	19
920	W.J., male, 3 years	Oct. 14th	Oct. 17th	998	I.J., female, 5 years	Nov. 1st	Nov. 3rd	18
985	P.H., female, 4 years	Oct. 28th	Oct. 31st	1012	H.H., male, 2 years	Nov. 5th	Nov. 6th	8
1038	T.T., male, 6 years	Nov. 14th	Nov. 16th	1053	C.T., female, 4 years	Nov. 16th	Nov. 21st	2



TABLE LVIII. Secondary Cases occurring whilst the first Case was in Hospital. (continued).

INFECTING CASE.				INFECTED CASE.				Number of days interval between onset of infecting case and onset of infected case
Register No.	Description.	Date of Onset.	Date of Admission.	Register No.	Description.	Date of Onset.	Date of Admission.	
1036	E. H., female, 5 years	Nov. 14th	Nov. 15th	1048	A. H., female, 12 years	Nov. 18th	Nov. 20th	4
1007	A. D., female, 22 years	Nov. 3rd	Nov. 4th	1061	F. D., female, 15 years	Nov. 21st	Nov. 23rd	18
1074	F. G., male, 13 years	Nov. 25th	Nov. 28th	1109	G. G., male, 12 years	Dec. 5th	Dec. 6th	10
1123	A. H., female, 4 years	Dec. 7th	Dec. 9th	1140	M. H., female, 1 year	Dec. 10th	Dec. 12th	3
1148	H. K., male, 5 years	Dec. 11th	Dec. 15th	1149	M. K., female, 4 years	Dec. 14th	Dec. 15th	3
1050	R. W., male, 12 years	Nov. 17th	Nov. 20th	1150	W. W., male, 6 years	Dec. 14th	Dec. 16th	27
1116	E. C., female, 4 years	Dec. 5th	Dec. 7th	1171	M. C., female, 9 years	Dec. 23rd	Dec. 27th	18

III. *Secondary cases of Scarlet Fever occurring in a house in which the first case was nursed at home.* Thirty-six of these occurred during the year. The periods respectively between the onset of the first case and the onset of the second case were:—

<i>Period.</i>	<i>Number of Cases.</i>
1 day .....	2
2 days .....	3
4 „ .....	1
5 „ .....	1
6 „ .....	2
7 „ .....	5
10 „ .....	3
11 „ .....	2
14 „ .....	1
15 „ .....	1
16 „ .....	2
17 „ .....	1
18 „ .....	1
19 „ .....	1
20 „ .....	1
21 „ .....	2
28 „ .....	1
29 „ .....	1
37 „ .....	1
42 „ .....	1
51 „ .....	1
58 „ .....	1
65 „ .....	1

TABLE LIX. Return Cases of Scarlet Fever occurring at Home.

INFECTING CASE.			INFECTED CASE.			Number of days interval between onset of infecting case and onset of infected case
No. of Case.	Description.	Date of Onset.	No. of Case.	Description.	Date of Onset	
60	A.F., female, 7 years	Jan. 21st	96	B.F., male, 9 years	Jan. 28th	7
82	A.W., female, 5 years	Jan. 24th	122	E.W., female, 1 year 10 months	Jan. 28th	4
54	F.B., male, 7 years	Jan. 19th	137	J.B., male, 12 years	Feb. 9th	21
7	G.H. female, 5 years	Jan. 1st	160	E.H., female, 10 years	Feb. 12th	42
216	S.M., female, 10 years	Feb. 20th	227	V.M., male, 7 years	March 2nd	10
225	M.C., female, 10 years	March 3rd	276	S.C., male, 12 years	March 18th	15
56	B.T., female, 7 years	Jan. 20th	282	E.T., female, 13 years	March 19th	58
367	P.J., male, 6 years	April 11th	480	S.J., female, 6 years	April 12th	1
301	H.G., male, 6 years	March 28th	384	M.G., female, 10 months	April 13th	16
480	S.J., female, 6 years	April 12th	484	E.J., male, 47 years	April 22nd	10
186	F.M., female, 10 years	Feb. 16th	516	E.M., female, 7 years	April 20th	65
495	F.L., male, 6 years	May 2nd	559	J.N., female, 14 years	May 7th	5

TABLE LIX. Return Cases of Scarlet Fever occurring at Home. (continued).

INFECTING CASE.			INFECTED CASE.			Number of days interval between onset of infecting case and onset of infected case
No. of Case.	Description.	Date of Onset.	No. of Case.	Description.	Date of Onset.	
633	W.L., male, 5 years	June 25th	946	R.L., female, 9 years	July 2nd	7
746	E.H., male, 15 years	July 3rd	712	J.H., male, 3 years	July 14th	11
732	A.B., female, 4 years	July 14th	762	L.B., male, 2 years	July 20th	6
742	J.F., male, 6 years	July 15th	766	R.F., male, 13 years	July 21st	6
736	C.W., female, 4 years	July 15th	772	L.W., female, 3 years	July 22nd	7
762	A.B., female, 4 years	July 14th	786	S.B., male, 27 years	July 24th	10
769	M.D., female, 18 years	July 18th	796	W.D., male, 7 years	July 25th	7
760	A.F., male, 6 years	July 20th	893	E.F., female, 9 years	Aug. 10th	21
926	H.S., male, 5 years	July 31st	926	G.S., male, 3 years	Aug. 20th	20
878	M.R., female, 9 years	Aug. 8th	943	M.R., female, 13 years	Aug. 22nd	14
1074	G.B., male, 4 years	Sept. 10th	1061	E.B., female, 7 years	Sept. 12th	2
927	M.H., female, 7 years	Aug. 16th	1013	R.H., male, 1 year 7 months.	Sept. 13th	28

TABLE LIX. Return Cases of Scarlet Fever occurring at Home. (continued).

INFECTING CASE.			INFECTED CASE.		Number of days interval between onset of infecting case and onset of infected case
No. of Case.	Description.	Date of Onset.	No. of Case.	Description.	
914	J.H., male, 4 years	Aug. 15th	1014	M.H., female, 38 years	29
1100	J.S., female, 4 years	Sept. 25th	1072	H.S., male, 6 years	1
1071	E.M., male, 8 years	Sept. 17th	1107	A.M., female, 10 years	16
965	M.S., female, 3 years	Aug. 28th	1124	L.S., female, 5 years	37
1151	L.C., female, 5 years	Oct. 3rd	1162	M.C., female, 6 years	1
1089	B.W., female, 2 years	Sept. 27th	1141	F.W., male, 7 years	11
1160	G.P., male, 4 years	Sept. 23rd	1163	M.H., female, 22 years	19
1211	V.M., female, 3 years	Oct. 18th	1277	M.M., female, 20 years	7
1220	A.H., female, 9 years	Oct. 20th	1347	W.H., male, 13 years	18
1431	J.R., female, 7 years	Nov. 26th	1446	W.R., male, 5 years	2
1189	C.R., male, 4 years	Oct. 13th	1473	F.R., male, 2 years	51
1497	E.K., male, 12 years	Dec. 6th	1497	E.K., female, 18 years	17

I have analysed and compared the return cases amongst Hospital patients with those occurring at homes from which the patient was *not* removed to Hospital during 1905.

I have also compared the death-rates amongst Hospital and non-Hospital patients.

(a) The relative frequency of secondary cases in houses from which the patient was—or was not—removed to Hospital during 1905 was as follows:—Out of the 1,120 cases which were removed to Hospital there were 44 return cases, or a percentage of 3.9. Out of the 458 cases not removed there were 36 return cases, or a percentage of 7.8.

(b) The case mortality amongst patients removed to Hospital compared with those treated at home during 1905 was as follows:—Amongst the 1,120 cases removed to Hospital there were 52 deaths, giving a case mortality of 4.6 per cent. Amongst the remaining 458 cases which were not removed there were 24 deaths, giving a case mortality of 5.2.

These figures show that in a town such as Blackburn removal of Scarlet Fever patients to the Hospital is highly desirable, whether from the point of view of secondary infection or recovery.



Table LX.—MEASLES, 1905.

Register No.	Particulars.	Date of Admission.	Date of Measles Rash.
1000	S. S., female ..... 2 years .....	November 3rd .....	Measles rash on admission (negative case)
929	B. W., female ..... 6 years .....	October 20th .....	November 4th
1012	H. H., male ..... 2 years .....	November 6th .....	10th
764	A. L., female ..... 3 years .....	September 9th .....	13th
902	S. W., female ..... 6 years .....	October 14th .....	14th
926	H. H., female ..... 4 years .....	18th .....	15th
927	A. B., female ..... 5 years .....	18th .....	15th
790	J. C., male ..... 4 years .....	September 15th .....	15th
882	A. H., male ..... 5 years .....	October 11th .....	21st
797	C. D., female ..... 4 years .....	September 18th .....	22nd
855	F. W., male ..... 6 years .....	October 5th .....	27th
985	P. H., female ..... 4 years .....	31st .....	30th
1032	H. S., male ..... 4 years .....	November 13th .....	30th
921	M. M., female ..... 2 years .....	October 19th .....	December 1st
833	H. L., male ..... 3 years .....	September 27th .....	9th
1023	A. G., male ..... 4 years .....	November 10th .....	14th
982	E. W., female ..... 1 year and 5 months .....	October 30th .....	14th
1079	N. W., male ..... 2 years .....	November 28th .....	23rd
1076	E. L., male ..... 3 years .....	28th .....	30th
1090	J. G., male ..... 2 years .....	December 1st .....	31st

TABLE LXI. POST-SCARLATINAL DIPHThERIA.

Register Num ber	Description.	Date of Onset of Scarlet Fever.	Date of Admission.	Particulars.
642	E.W. Female, 6 years.	August 2nd.	August 3rd.	On August 11th, Typical Scarlet Fever. Regurgitation noticed. Swab taken and large number of Diphtheria bacilli found. August 17th, Nasal Voice and heart complications.
657	E.M. Female, 8 years.	July 31st.	August 4th.	Peeling on admission. Slept with previous case on August 16th, 17th, and 18th. Swab taken August 19th, diphtheria bacilli found. No complications.
796	J.M. Male, 3 years.	September 15th	September 18th	Typical Scarlet Fever on admission. Swab taken September 16th, Diphtheria bacilli present. Heart complications.
944	A.H. Female, 1 year 10 months.	October 11th.	October 24th.	On admission well-marked desquamation. November 2nd, stridulus breathing and croupy cough. Swab taken, diphtheria bacilli present.

TABLE LXI. (continued), POST-SCARLATINAL DIPHThERIA.

Register Number.	Description.	Date of Onset of Scarlet Fever.	Date of Admission.	Particulars.
945	H.H., Male, 5 years.	October 8th.	October 24th.	On admission peeling hands and feet slept with sister (previous case), from Oct. 24th up to Nov. 2nd. Swab taken Nov. 3rd., almost a pure culture of diphtheria bacilli. No complications.
985	P.H., Female, 4 years.	October 28th.	October 31st.	Oct. 28th. well-marked Scarlet Fever. Nov. 28th. Measles. Dec. 6th Laryngitis. Swab taken, large number of diphtheria bacilli found. No complications.
926	H.H., Female, 4 years.	October 17th.	October 18th.	Typical Scarlet Fever on admission. Nov. 13th. Measles. Dec. 7th. Laryngitis. Swab taken, diphtheria bacilli present. No complication.
1157	M.M., Female, 6 years.	December 16th	December 16th	Typical Scarlet Fever on admission, Throat discharging but no membrane. Dec. 23rd. Laryngitis. Swab taken, diphtheria bacilli present, 4,000 units antitoxin injected. Dec. 24th. Paralysis, cardiac and palate. Died Jan 5th from heart failure.

TABLE LXIII.

The following table shows the percentage of Scarlet Fever removals in Wards during 1905.

Ward.	Percentages.
St Stephen's .....	74·0
Trinity .....	75·8
St. Michael's .....	69·6
St John's .....	80·8
St. Silas's .....	47·9
St. Paul's .....	73·6
St. Peter's .....	83·5
St Mary's .....	85·4
St Matthew's .....	67·0
St Thomas's .....	68·3
Park .....	75·2
St. Luke's .....	63·8
St Mark's .....	61·3
St. Andrew's .....	69·3

Table LXII.—VARICELLA—JANUARY TO MARCH, 1905.

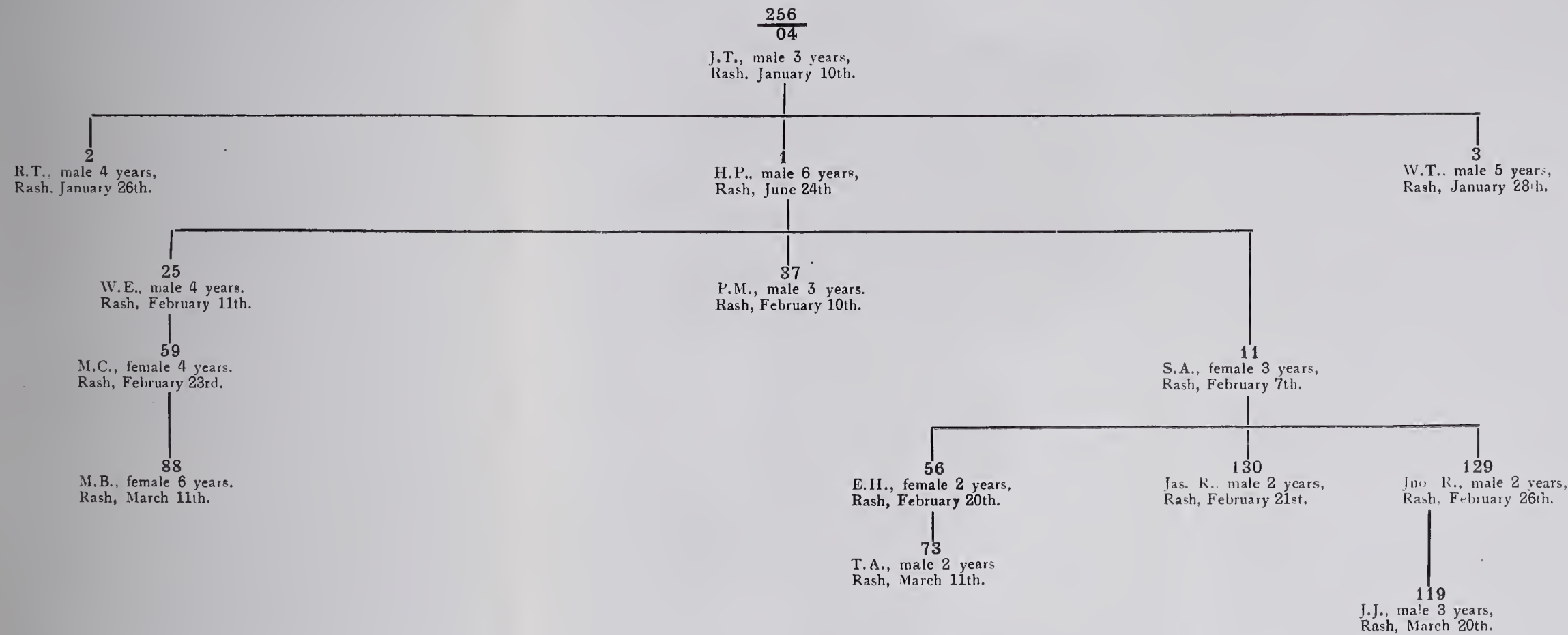






TABLE LXIV.

Monthly Admissions of Scarlet Fever Cases to Fever  
Hospital during 1905.

Month.	Total Number of Scarlet Fever Cases Notified.	Scarlet Fever Removals.	Percentages of Removal of S. F.
January.....	99	58	58·5
February .....	114	78	68·4
March .....	106	74	69·8
April .....	121	91	75·2
May .....	120	94	78·3
June .....	81	67	82·7
July .....	184	139	75·5
August .....	145	113	65·7
September .....	121	98	80·9
October .....	208	136	65·3
November.. ..	156	91	58·3
December.....	123	78	63·4
Totals.....	1578	1117	71·6

## ENTERIC FEVER.

The total number of cases admitted as Enteric Fever was 56. Seven of these were negative, leaving 49 true cases of the disease.

The seven negative cases were as follows:—

Appendicitis .....	1
Pneumonia .....	2
Phthisis .....	2
Rheumatism and mitral disease .....	1
Ulcerative Endocarditis .....	1

Five deaths occurred out of the 49 cases, giving a case mortality of 10.2.

Two of the negative cases died, the case of Appendicitis, and the case of Ulcerative Endocarditis.

The following complications and sequelæ occurred:—

Bronchitis .....	in 21 cases.
Pneumonia .....	3 „
Hæmorrhage .....	3 „
Perforation .....	1 „
Phlebitis .....	3 „
Cystitis .....	1 „
Abscesses .....	2 „

(a) Gluteal region and right thigh.

(b) Gluteal region.

Relapses occurred in two cases, giving a case percentage of 4.08.

Two of the cases of Enteric Fever had also Phthisis.

Another case developed the Enteric Fever whilst in the desquamation stage of Scarlet Fever, and was admitted to Hospital peeling and with well-marked symptoms of Enteric Fever.

Particulars have been tabulated respecting personal infection in this disease.

TABLE LXV.  
PERSONAL INFECTION IN ENTERIC FEVER.

INFECTING CASE.				INFECTED CASE.				
Reg. No.	Description.	Date of Onset.	Date of Admission.	Reg. No.	Description.	Date of Onset	Date of Admission	Remarks.
891	S. J., female, 28 years	Oct. 3rd	Oct. 12th	1091	W. J., male, 8 years	Nov. 23rd	Dec. 1st	W. J. was probably infected by his mother, S. J., after her return home from Hospital, Nov. 10th
				1143	M. J., female, 5 years	Dec. 6th	Dec. 13th	M. J. was probably infected by her brother, W. J., before his admission to Hospital, Dec. 1st.
1023	A. G., male, 4 years	Nov. 5th	Nov. 10th	1144	A. G., male, 5 years	Dec. 6th	Dec. 13th	Probably infected by A. G. before his admission on Nov. 10th

TABLE LXVI.

The following table shows the percentage of Enteric Fever removals in wards during 1905.

Wards.	Percentages.
St. Stephen's .....	100·0
Trinity .....	42·8
St. Michael's .....	100·0
St. John's .....	66·6
St. Silas's.....	75·0
St. Paul's... ..	54·5
St Peter's .....	60·0
St. Mary's .....	80·0
St. Matthew's .....	63·6
St. Thomas's .....	22·2
Park .....	50·0
St. Luke's .....	100·0
St Mark's .....	33·3
St Andrew's .....	66·6

TABLE LXVII.

Showing cases of Scarlet Fever and Typhoid Fever removed to Hospital expressed as a percentage of the cases notified:—

Year.	Scarlet Fever.	Enteric Fever.
1895	56.0	45.4
1896	63.0	53.8
1897	61.0	51.4
1898	50.0	43.0
1899	47.0	54.0
1900	26.0	43.5
1901	26.7	59.5
1902	56.4	62.2
1903	69.0	60.8
1904	72.2	70.2
1905	71.6	62.2

## DIPHTHERIA.

Only 4 cases were admitted during 1905, owing to the Scarlet Fever Epidemic and the small amount of Diphtheria during the greater part of the year. No death occurred.

The following complications and sequelæ occurred:—

Laryngitis ..... in 1 case.  
 Cardiac paralysis ..... .. 2 cases

Eight cases of Post Scarlatinal Diphtheria occurred, and these cases have been referred to in connection with Scarlet Fever.

Diphtheria bacilli were found in all the above cases whilst in Hospital.

Thus the average length of stay in the Hospital of the 48 Scarlet Fever patients who died during 1905 was 12.6 days per case.

Four Scarlet Fever patients admitted during 1905 died in 1906, viz. :—

Date of Death.	No. of Days in Hospital before Death occurred.	Cause of Death.
Jan. 3.	27	Scarlet Fever. Meningitis
Jan. 5.	17	Scarlet Fever. Exhaustion.
Jan. 5.	18	Scarlet Fever. Diphtheria.
Jan. 15.	33	Scarlet Fever. Measles. Exhaustion.

The average length of stay in Hospital of these four cases of Scarlet Fever was 23.7 days per case.

The average length of stay in Hospital of the five Enteric Fever patients who died was 12.6 days.

Similarly the average stay of the two negative cases of Enteric Fever was 26 days.

There were no deaths among the four cases of Diphtheria admitted, and no further death took place amongst the Enteric Fever patients remaining in Hospital during 1906.



Table LXVIII. DEATHS at the FEVER HOSPITAL during 1905.  
The following are the death returns and length of stay of the patients who died in the Fever Hospital during 1905 :—

Date of Death.	No. of days in Hospital before death occurred.	Cause of Death.
January 7th	5	Scarlet Fever. Exhaustion.
„ 28th	20	Appendicitis. Peritonitis.
February 3rd	13	Scarlet Fever. Exhaustion.
„ 16th	23	Scarlet Fever. Syncope
„ 27th	8	Scarlet Fever. Meningitis.
„ 28th	29	Scarlet Fever. Exhaustion.
March 9th	3	Enteric Fever. Perforation
„ 13th	15	Scarlet Fever. Exhaustion.
„ 25th	38	Enteric Fever. Hoemorrhage and Exhaustion
April 11th	2	Scarlet Fever. Exhaustion.
„ 12th	29	Scarlet Fever. Nephritis. Pneumonia.
„ 12th	3	Scarlet Fever. Exhaustion.
„ 20th	4	Scarlet Fever. Exhaustion.
„ 28th	12	Enteric Fever. Epilepsy.
May 1st	19	Scarlet Fever. Pneumonia
„ 9th	8	Enteric Fever. Exhaustion.
„ 22nd	5	Scarlet Fever. Exhaustion.
June 9th	2	Scarlet Fever. Exhaustion.
„ 25th	6	Scarlet Fever. Exhaustion.
„ 29th	21	Scarlet Fever. Exhaustion.
July 7th	8	Scarlet Fever. Exhaustion.
„ 10th	2	Scarlet Fever. Exhaustion.
„ 12th	10	Scarlet Fever. Exhaustion.
„ 16th	51	Scarlet Fever. Exhaustion.

TABLE LXVIII. continued.

Date of Death.	No. of days in Hospital before death occurred.	Cause of Death.
July 27th	6	Scarlet Fever. Septic Pneumonia
August 2nd	3	Scarlet Fever. Exhaustion
„ 4th	10	Scarlet Fever. Acute Nephritis
„ 5th	23	Scarlet Fever. Septic Pneumonia
„ 10th	3	Scarlet Fever. Exhaustion
„ 13th	12	Scarlet Fever. Meningitis
„ 19th	12	Scarlet Fever. Exhaustion
„ 22nd	2	Scarlet Fever. Exhaustion
„ 23rd	2	Scarlet Fever. Exhaustion
September 2nd	16	Scarlet Fever. Pneumonia
„ 3rd	2	Enteric Fever. Pneumonia
„ 7th	29	Scarlet Fever. Peritonitis
„ 19th	2	Scarlet Fever. Syncope
„ 22nd	5	Scarlet Fever. Exhaustion
October 1st	3	Scarlet Fever. Syncope
„ 2nd	4	Scarlet Fever. Exhaustion
„ 5th	2	Scarlet Fever. Syncope
„ 8th	12	Scarlet Fever. Exhaustion
„ 8th	19	Scarlet Fever. Exhaustion
„ 11th	3	Scarlet Fever. Exhaustion
„ 13th	8	Scarlet Fever. Exhaustion
„ 14th	9	Scarlet Fever. Exhaustion
„ 19th	24	Scarlet Fever. Pneumonia. Nephritis
November 24th	3	Scarlet Fever. Exhaustion
December 2nd	5	Scarlet Fever. Exhaustion

TABLE LXVIII. — continued.

Date of Death.	No. of days in Hospital before death occurred.	Cause of death.
December 5th	16	Scarlet Fever. Exhaustion
„ 6th	52	Scarlet Fever. Meningitis
„ 16th	6	Scarlet Fever. Exhaustion
„ 26th	32	Ulcerative Endocarditis. Syncope
„ 27th	23	Scarlet Fever. Exhaustion
„ 29th	10	Scarlet Fever. Exhaustion

TABLE LXIX.

The following bacteriological work has been carried out at the Fever Hospital Laboratory during 1905.

Material Examined.	Positive	Negative	Total
Throat Swabs for Diphtheria Bacilli ... ..	164	206	370
Nose Swabs for Diphtheria Bacilli ... ..	...	1	1
Sputum for Tubercle Bacilli ... ..	54	122	176
Udders       "       "       ... ..	40	2	42
Throat Swabs from Hospital Patients ... ..	7	17	24
Spleens for Anthrax Bacilli ... ..	5	1	6
Kidneys       "       "       ... ..	2	1	3
Lungs       "       "       ... ..	2	...	2
Liver       "       "       ... ..	1	...	1
Muscle       "       "       ... ..	1	...	1
Blood       "       "       ... ..	1	...	1
Water       "       "       ... ..	...	1	1
Ear       "       "       ... ..	...	1	1
Gland for Tubercle Bacilli ... ..	...	1	1
Pleural Fluid       "       ... ..	...	1	1
Pus from Udders       "       ... ..	...	2	2
Spinal Cord       "       ... ..	1	...	1
Urine       "       ... ..	...	1	1
Throat       "       ... ..	...	1	1
Muscle for Bacilli of Blackleg ... ..	1	...	1
Skin of cow for Ringworm ... ..	1	...	1
Total ... ..	280	358	638

TABLE LXX.

The following additional Bacteriological Work has been carried out at the Public Health Laboratory in Manchester during 1905.

Material Examined.	Positive.	Negative.	Total.
Sputum for Tubercle Bacilli . . . . .	21	67	88
Throat Swabs for Diphtheria Bacilli .	16	35	51
Udders for Tubercle Bacilli ... ..	2	...	2
Urine of Typhoid Bacilli ... . . . .	..	1	1
	39	103	142

## CONVERSION OF PRIVY MIDDENS.

542 Privy Middens have been ordered by the Health Committee to be converted during the year, compared with 467 during 1904.

The immense superiority of the fresh water-carriage system is now generally recognised.

The important question of dealing with the pail closets, many of which are extremely objectionable, will be the next question to be considered.

It is also necessary to draw attention to the great desirability of replacing the old brick ashpits which remain after privy middens have been converted, by portable ashbins of approved size and materials and provided with covers.

## SCAVENGING.

As I have stated before, it would be of the greatest advantage if there could be uniformity in size, materials, etc., of the ashbins. It is preferable that they should be constructed so so they may be lifted bodily into the cart by two men, in order to avoid any soiling of the streets and back passages.

The scavenging in two out of the three districts in the town is now let by contract.

Wet ashpits emptied .....	9.423
Dry ashpits emptied .....	191.628
Ashtubs emptied .....	459.837
Excreta-tubs emptied .....	557.585
Excreta-tubs cleansed .....	557.434
About 2,249 tons of dry ashes tipped.	
No other refuse tipped.	

## DESTRUCTORS.

The Destructors built and worked by the Blackburn Corporation are as follows: —



- (1) *Audley, Bennington Street*, built in 1882, and constructed on the Manlove, Alliott and Co.'s design, with 10 cells. This was reconstructed with forced draught in 1900. The steam generated is used for mortar-pans, fans, and electric light for dépôt.
- (2) *At the Corporation Storeyard, Islington*, built in 1900, is by Meldrums and has 2 cells. The steam is used for mortar-pan, workshops, and chaff cutting.
- (3) *Greenbank*, adjoining the Gasworks, built in 1901 on the Heenan and Froude principle, and has 6 cells. The steam is used for mortar-pan, fan, and gaswork purposes.
- (4) *Wensley Fold, situated off Throstle Street*, built in 1902, is also on the Heenan and Froude principle, and has 8 cells. The steam is used for fans, and a flag-pressing plant, which manufactures the waste clinker from the Destructor refuse into  $2\frac{1}{4}$ in. flags, which are being extensively used in the Borough for flagging footpaths and back yards. The steam from this Destructor, however, is principally used in driving a duplicate triple-expansion engine for pumping water from the low-pressure mains to Revidge for the high-level supply.

TABLE LXXI.

REFUSE DESTROYED AT DESTRUCTORS, 1905.

Month.	Midden Refuse			Ashpit Refuse			Fish, Carcases, Market Refuse, &c.			Totals.		
	T.	C.	Q.	T.	C.	Q.	T.	C.	Q.	T.	C.	Q.
Jan	232	13	3	2129	14	0	163	13	2	2526	1	1
Feb.	179	5	3	2101	6	3	134	8	1	2415	0	3
Mch.	295	1	3	2399	11	3	152	16	0	2847	9	2
Apl.	292	0	0	1924	14	3	135	13	0	2352	7	3
May	370	2	3	2178	1	0	154	8	3	2702	12	2
June	237	1	2	1880	10	0	133	10	1	2251	1	3
July	311	7	3	2021	8	1	153	9	0	2486	5	0
Aug	165	4	2	1874	5	1	136	17	2	2176	7	1
Sept.	174	17	2	2075	13	1	152	1	2	2402	12	1
Oct.	159	15	1	2067	13	1	160	13	2	2388	2	0
Nov.	176	14	0	2749	12	3	159	18	0	2986	4	3
Dec.	124	13	3	2362	14	0	152	0	1	2639	8	0
Totals	2718	18	1	25665	5	0	1789	9	2	30173	12	3

The above refuse was destroyed at the four Destructors, as follows:—

<i>Audley Destructor.</i>	Tons.	Cwts.	Qrs.
Dry refuse .....	6480	15	2
Night soil .....	2155	16	1
Fish. market refuse. carcasses.	1789	9	2

<i>Greenbank Destructor.</i>			
Dry refuse .....	9518	9	0
Nightsoil .....	563	1	3

<i>Wensley Fold.</i>			
Dry refuse .....	7691	0	0

<i>Storeyard.</i>			
Dry refuse .....	1975	0	2

### SEWAGE DISPOSAL.

The following is a brief account of the method of dealing with Blackburn Sewage, for which I am indebted to the Borough Engineer.

The larger portion of the Sewage of the Borough is collected by gravitation at Witton, where it is screened and passed through catchpits to remove the sand and rags which have obtained access to the sewers. It then travels to Samlesbury, a distance of  $4\frac{1}{2}$  miles, in duplicate cast-iron pipe syphons and brick tunnels. A portion of the sewage from the low-lying districts is lifted by hydraulic pumps into the outfall conduit. These having become inadequate for the volume of sewage from this district, they will be replaced this year by new centrifugal pumps working electrically at Fenisccliffe Bridge. Another main conduit takes the sewage from the Beardwood district to Samlesbury.

On arriving at Samlesbury the sewage is either treated by the Basterial System or by chemical precipitation, with sludge pressing and land irrigation. The portion undergoing the latter

treatment passes through a screen chamber and drives a water-wheel, thus supplying power for mixing the precipitant and driving a dynamo for generating light at the works. About 6grs. per gallon of precipitant is then added, and the sewage enters the tanks, of which ten are now used, each 120ft. x 40ft., 6 more of which are at present being used as septic tanks in conjunction with the Bacteria process. From the precipitation tanks the sewage passes to the land for irrigation, 400 acres being used for this purpose, and the effluent eventually finds its way to the river. The sludge is gravitated to two reservoirs, mixed with lime and forced by rams actuated by compressed air into sludge presses, which form about 220 tons of cake per week. This is removed by band conveyors, and farmers cart it away.

The six septic tanks receive the crude sewage from the outfall conduit and hold about  $1\frac{1}{4}$  million gallons, which pass thence to 24 bacteria beds, each measuring 120ft. x 60ft. x 4ft. 6in. deep. The sewage is distributed over these beds by perforated wooden troughs or earthenware pipes laid upon the graded clinker or iron slag with which the beds are filled. The beds are capable of dealing with  $1\frac{1}{2}$  million gallons of the normal flow of sewage per 24 hours.

As a further extension of this system, the Sewage Committee has completed two detritus tanks and a divided septic reservoir to hold  $6\frac{1}{4}$  million gallons, and are constructing 24 circular beds, 9ft. in height and 80ft. in diameter, built of rubble stone and filled with graded stone and clinker. The septic tank effluent will be distributed over the upper surface of these beds by revolving sprinklers worked by the head of sewage. The effluent from these beds will require a slight further purification, which will be effected by passing through "roughing" filters, eight in number, and measuring 180ft. x 40ft., filled with small clinker or stone chippings, to a depth of 3ft. 6in.

#### WATER SUPPLY.

The quality of Blackburn water is very good, and is above suspicion regarding the possibility of the spread of water-borne diseases, such as enteric fever, etc.

This is a moorland water, and comes from the Brennand and Whitendale Valleys, about 20 miles from the Borough.

### ANALYSES OF WATER.

I am indebted to Dr. Pickard for the following results:—

TABLE LXXII.

Where Taken.	Technical School.			Grammar School.
Date .....	6/3/05	22/4/05	12/7/05	9/10/05
Total Solids ... ..	5·88	5·10	5·20	5·20
Including Volatile Matter	2·08	2·32	1·90	1·70
Chlorides in terms of Chlorine .....	1·00	1·00	1·05	1·05
Saline Ammonia .....	0·0016	0·0012	0·0180	0·0024
Organic Ammonia ...	0·0104	0·0120	0·0180	0·0121
Nitrogen as Nitrates...	0·057	0·032	0·046	0·0049
Permanent Hardness ...	3·10	3·00	2·70	2·80
Temporary Hardness ..	1 20	1·05	·90	1 00

All the results are in parts per 100,000.

The above are typical results obtained during the past year from analyses of the Blackburn water supply.

I am indebted to the Borough Engineer for permission to publish the following records of Rainfall during 1905 in connection with the Blackburn Corporation Waterworks.



Table LXXIII.—RAINFALL at the following Stations in the Counties of Lancaster and York.

DATE.	LANCASHIRE.										WEST RIDING OF THE COUNTY OF YORK.						
	Blackburn — Waterwork Office. — Elevation 436 Gauge 60ft. above ground	Blackburn Corporation Store Yard — Elevation 373	Blackburn — High Level Pumping Station. — Elevation 600	— Witton — Elevation 315	— Corporation Park. — Elevation 550	— Guide — Elevation 651	Daisy Green — Elevation 669	Pickup Bank — Elevation 720	Hollesd'n Sewage Works. — Elevation 680	San'tbury Sewage Works. — Elevation —	Dunsop Houses — Elevation 450	Bremand — Elevation 820	Whitcliffe — Elevation 830	Cabinhill — Elevation 1559	Middle Knoll — Elevation 1206	Baxton Fell — Elevation 1540	
1905.																	
January	1'27	1'75	2'19	2'24	2'27	1'53	2'06	2'02	2'51	1'53	4'55	6'55	6'11	5'10	5'10	5'20	
February	1'40	2'72	2'48	2'54	2'54	1'63	2'82	2'85	3'13	1'83	3'86	4'57	4'34	4'00	2'40	2'60	
March ...	1'90	2'23	2'59	2'43	2'62	3'02	3'96	3'93	4'17	2'84	5'57	6'27	6'09	4'50	3'80	4'20	
April .....	2'39	2'89	3'58	3'35	3'55	3'40	4'00	3'95	4'25	2'35	5'28	5'97	5'75	5'50	4'40	4'70	
May ....	'34	'48	'60	'49	'61	'51	'69	'64	'69	'61	'85	1'99	1'80	2'20	1'70	1'70	
June .....	2'36	1'50	2'71	2'84	2'89	3'06	3'76	3'85	3'96	3'10	3'64	3'52	3'42	3'30	3'50	3'60	
July .....	2'36	1'39	3'30	2'94	3'60	2'47	2'96	2'90	2'89	3'42	3'47	4'83	4'39	7'00	4'20	3'50	
August ...	2'72	2'78	3'53	3'59	3'47	3'90	5'30	5'35	5'15	3'75	6'66	6'52	6'65	5'70	5'40	6'20	
Sept'ber	2'27	2'45	3'42	2'96	3'54	2'41	3'29	3'19	3'39	3'03	5'64	6'84	6'88	6'60	5'50	5'60	
October	3'11	4'02	4'00	4'05	4'03	3'23	4'55	4'42	4'55	3'62	5'93	7'38	6'90	7'10	5'50	4'90	
Nov'ber	3'90	5'06	5'46	5'19	5'33	5'06	6'22	6'25	6'33	4'99	6'33	7'15	6'70	6'30	6'60	6'80	
Dec'ber	'44	1'08	'87	'77	'93	'58	1'11	1'11	1'21	'63	2'24	2'26	2'69	3'00	2'30	2'90	
Totals for 1905	24'46	28'35	34'73	33'39	35'38	30'80	40'72	40'46	42'23	31'70	54'02	63'85	61'72	60'30	50'40	51'90	

AVERAGES FOR TEN GAUGES :—34'22.

AVERAGES FOR SIX GAUGES :—57'03.





## DISINFECTANTS.

The following quantities of Disinfectants have been used during 1905: —

- I. Izal. 80 gallons (Fever Hospital).
- II. Chloros. 1,421 gallons.
- III. Chloride of Lime, 6 tons, 3 cwts., 3 qrs., 4 lbs.
- IV. Sanitary Dry Lime, 4,160. 7lb. bags.
- V. Carbolic Powder, 25 gross. dredgers.

The total cost of the above Disinfectants was £210 15s. 2d.

## HOUSE DRAINAGE.

Special attention has been given to this work during the year.

421 drains were inspected, necessitating the application of the smoke test in 509 cases, and of the water test in 269 cases.

During the repairing and relaying of drains, 573 visits were made, including 298 water tests.

95 per cent. of the defective drains were found to have either puddle joints, open joints, or broken pipes. The substitution of cement joints to the drains instead of clay will prove of immense advantage.

A small number of the defective drains had been laid with cement joints previously, but the cause of the defects was due to subsidence of the ground underneath the drain pipes. This indicates the importance of ensuring solid foundations at the time the drains are laid.

The following statement shows in detail the drainage work which has been carried out during the year.

## DRAINAGE, 1905.

No. of Drains inspected .....	421
„ Typhoid Fever .....	83
„ Diphtheria .....	133
„ Complaints .....	140
„ Other causes .....	65
„ Letters from Medical Officer of Health .....	230
„ Preliminary Notices served ...	74
„ Legal Notices served .....	10
„ Visits to work in progress .....	573
„ Drains tested (a) Smoke .....	509
„ „ „ (b) Water .....	298
„ Examined apart from above (a and b) .....	269
„ Drains traced for leakage with coloured solution .....	32
„ Drains found defective .....	254
„ Drains relayed throughout and stood the water test .....	163
„ Drains partly relayed and stood the water test (short lengths) .....	75
„ Defective gullies replaced .....	138
„ New lip dishstones provided ..	149
„ Inspection chambers provided...	36
„ Slop-water closet drains opened and cleansed .....	11
„ Downspouts repaired .....	90
„ Soil-pipes replaced or repaired.	32
„ Surfaces of yards flagged after drains relayed .....	52
„ Surfaces of yards repaired after drains relayed .....	47
„ Pail-closets converted to w.c. ...	5
„ Sink-pipes repaired .....	41
„ Useless drains removed from cellar premises .....	3
„ Slop-water closets converted to pedestal wash-downs .....	3

## COMMON LODGING-HOUSES.

During 1905, a special report, dealing with the existing Common Lodging-House accommodation, and with the provision of a Municipal Artisans' Dwelling in Blackburn, was prepared, and presented to the Health Committee

There are 19 Registered Common Lodging-Houses in Blackburn with accommodation for 797 lodgers.

In addition, 4 other houses will probably be registered provided certain alterations are carried out, and these will accommodate 102 lodgers.

Certain of the existing Lodging-Houses require alterations, and I have drawn up the following specification indicating the necessary conditions.

Public Health Offices,

51, Ainsworth Street,

Blackburn,

April 7th, 1905.

To

The Keeper of the Common Lodging-House.  
No.

Dear Sir,

I beg to inform you that, in accordance with the Blackburn Improvement Act, 1901, it is necessary for you to make application before May 9th in each year for the renewal of the license of your Common Lodging-House; and I wish to point out to you that after May, 1905, the following conditions will be strictly observed before granting the same: --

1. All walls, floors, and ceilings of every sleeping and living-room must be thoroughly and evenly repaired, so as not to admit of any accumulation of dust.

2. The surface of the yard must be well flagged, so that it can be kept in a clean and wholesome condition.
3. One water-closet of approved type must be provided to every 20 lodgers of each sex.
4. A covered removable ash receptacle must be provided.
5. Every sleeping-room must be efficiently ventilated by means of sash windows and open fireplaces, or special ventilators.
6. One glazed earthenware wash-basin must be provided for every 12 lodgers, together with a suitable towel.
7. Single beds with spring mattresses only must be used.
8. The beds of married couples must be screened off with proper wooden partitions so erected as not to obstruct light.
9. Proper enamel chamber utensils must be used instead of buckets.
10. The staircase must be firm and in good repair.

I am,

Yours faithfully,

ALFRED GREENWOOD.

Medical Officer of Health.

#### INSANITARY PROPERTY.

Houses ordered to be closed:—

77. Wensley Street.  
 4, 6, 8, 10, 12, 13, Syke Street.  
 27. Manner Sutton Street.

Houses ordered to be altered to the satisfaction of the Medical Officer of Health, or closed :—

3, 4, 5, 9, 19, 20, 21, 22, 24, 25, 26, 27, 24a, 24b, 14, Jack Croft.

1, 2, Barlow Fold.

75, 77, 79, Grimshaw Park.

9, 15, Syke Street.

5, Quarry Street.

8, 10, Chapel Street.

73, 75, Wensley Street.

79, 81, 83, Lancaster Street.

Houses Demolished :—

Two houses behind 22, Crossfield Street.

### SYSTEMATIC INSPECTIONS.

The Local Government Board require that the Medical Officer of Health, in reporting his proceedings and advice, should put on record whether he has made systematic inspections of his district. By "systematic inspections" are meant inspections independent of such inquiries as the Medical Officer of Health may have to make into particular outbreaks of disease, or into unwholesome conditions to which his attention has been specially called by complaints or otherwise : and such inspections will include the house-to-house inspections which may be necessary in particular localities.

In the Annual Report for 1903 a statement was made, giving a description of the four districts into which the Borough has been divided, so that one of the four District Inspectors could be attached to each.

For Census purposes the Borough has been divided into three districts, namely, Northern, Southern, Witton and Livesey.

Each of these three districts has been divided into Enumeration Districts (see Map). Thus the Northern Division



has been divided into 60 Enumeration Districts, the Southern Division into 49 Enumeration Districts, and Witton and Livesey Division into 21 Enumeration Districts.

Such an arrangement greatly facilitates not only the systematic inspections, but also the keeping of records of such inspections.

The following is a statement of the systematic inspections which have been carried out by the four District Inspectors during 1905. In addition, of course, large numbers of visits have been made in answer to complaints received, and also in reference to notifiable and non-notifiable infectious diseases.

### DISTRICT No. 1.

#### ENUMERATION DISTRICT. —12 pt. SOUTHERN.

<i>Name of street.</i>	<i>No. of houses inspected.</i>
85 to 123, Riley Street .....	20
66 to 78, Scotland Road .....	7
92 to 130, Chester Street .....	20
83 to 93, Audley Range .....	6

#### ENUMERATION DISTRICT.—14 SOUTHERN.

80 to 92, Scotland Road .....	7
101 to 143, Chester Street .....	22
95 to 107, Audley Range .....	7
46 to 64, Snape Street .....	10
66 to 86, Snape Street .....	11
94 to 108, Scotland Road .....	8
45 to 87, Snape Street .....	22
109 to 123, Audley Range .....	8

#### ENUMERATION DISTRICT.—16 SOUTHERN.

56 to 94, Dewhurst Street .....	20
110 to 120, Scotland Road .....	6
63 to 101, Dewhurst Street .....	20

<i>Name of street.</i>	<i>No. of houses inspected.</i>
125 to 137, Audley Range .....	7
100 to 148, Alker Street .....	25
122 to 132, Scotland Road .....	6
99 to 149, Alker Street .....	26
99 to 146, Audley Lane .....	26

ENUMERATION DISTRICT.—29 pt. SOUTHERN.

2, 8, 10, 12, and 14, Back Shadsworth...	4
16 to 46, Shadsworth Road ..	16

DISTRICT No. 2.

ENUMERATION DISTRICT.—7 NORTHERN.

108, Revidge Road .....	1
92 to 172, Duke's Brow .....	41

ENUMERATION DISTRICT.—1 pt. NORTHERN.

4 to 8, St. Andrew's Street .....	3
18 to 40, Wellington Street. St. John's...	12
1 to 21, York Terrace. Shear Brow .....	11
93 and 95, Alexandra Road .....	2

ENUMERATION DISTRICT.—59 pt. NORTHERN.

1 to 25, Whalley Old Road .....	13
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DISTRICT No. 3.

ENUMERATION DISTRICT.—6 WITTON & LIVESEY.

5 to 57, Griffin Street .....	27
81 to 115, Griffin Street .....	18

ENUMERATION DISTRICT.—2 WITTON & LIVESEY

2 to 28, Bath Street .....	14
11 to 19, Bridgewater Street .....	5
13 to 25, Thompson Street .....	7
1 to 9, Bridgewater Street .....	5

<i>Name of street.</i>	<i>No. of houses inspected.</i>
1 to 25, Bath Street .....	13
29, Thompson Street .....	1
2 to 30, Redlam .....	15
1 to 27, Pleasington Street .....	14
29 to 49, Pleasington Street .....	11
2 to 34, Thompson Street .....	17
38 to 60, Redlam .....	12
2 to 36, Hawkshead Street .....	18
1 to 23, Hawkshead Street .....	12
4 to 16, West View .....	7

ENUMERATION DISTRICT.—50 NORTHERN.

19 to 53, Lawrence Street .....	18
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DISTRICT No. 4.

ENUMERATION DISTRICT.—18 SOUTHERN.

4 to 28, Lower Audley Street .....	13
1 to 25, Chapel Place .....	13
9 to 19, Park Road .....	6
30 to 42, Lower Audley Street .....	7
2 to 58, Meadow Street .....	29
1 to 43, Houghton Street .....	22
1 to 47, Meadow Street .....	24
2 to 48, Lord Derby Street .....	24
44 to 56, Lower Audley Street .....	7
3 to 39, Lord Derby Street .....	19
5 to 21, Pitt Street .....	9
52 to 84, Carlisle Street .....	17
58 to 70, Lower Audley .....	7
25 to 39, Park Road .....	8
2 to 18, Hutchinson Street .....	9
2 to 10, Meadow Lane .....	5
1 to 9, Back Pitt Street .....	13
86 to 94, Carlisle Street .....	5
43 to 53, Lord Derby Street .....	6
2 to 20, Pitt Street .....	10
56 to 58, Lord Derby Street .....	3
22 to 48, Pitt Street .....	13

## ENUMERATION DISTRICT.—28 SOUTHERN.

<i>Name of street.</i>	<i>No. of houses inspected.</i>
2 to 48, Primrose Hill .....	14
1 to 3, Primrose Hill .....	2
2 to 30, Crossfield Street .....	15
35 to 57, Grimshaw Park .....	11
3, 4, 5, 9, 12, 12a, 13, 14, 19, 20, 21, 22, 24, 24a, 24b, 25, 26, and 27, Jack Croft .....	18
5 to 87, Haslingden Road .....	42
4 to 126, Haslingden Road .....	62
59 to 85, Grimshaw Park .....	14
151 and 153, Grimshaw Park .....	2
2 to 12, Delph Street .....	6
1 and 2, Barlow Fold .....	2

## ENUMERATION DISTRICT.—31 pt. SOUTHERN.

1 to 29, Kemp Street .....	15
2 to 54, Kemp Street .....	27
184 to 194, Longshaw Lane .....	6
114 to 144, Grimshaw Park .....	16
1 to 13, Smalley Street .....	7
184 to 188, Brandy House Brow .....	3
212 to 224, Brandy House Brow .....	7

## ENUMERATION DISTRICT.—39 pt. SOUTHERN.

4 to 28, Highfield Road .....	13
141 to 155, Bolton Road .....	8
56 to 74, Eccles Street .....	10
1 to 27, New Garden Street .....	14
3 to 5, Hall Street .....	2
2 to 18, Black Diamond Street .....	9
3 to 21, Black Diamond Street .....	10
2 New Garden Street .....	1

As a result of the above inquiries a large number of sanitary defects were found and remedied, which otherwise might not have come to light for a considerable time.

## DEATH-RATES IN THE ENUMERATION DISTRICTS.

It is interesting to compare the annual death-rates in the various Enumeration Districts.

They vary from 4.6 in District No. 36 of the Southern Division to 42.4 in District No. 1 of the Southern Division.

A Map has also been prepared showing the number of each Enumeration District, together with its death-rate for 1905. This Table and Map will be found at the end of the Report.

The following correspondence was received during the year respecting alterations in certain districts of Blackburn:—

Local Government Board,

Whitehall, S.W.,

25th July, 1905.

Sir,

I am directed by the Local Government Board to transmit to the Council of the County Borough of Blackburn the accompanying copy of a letter which has been addressed to the Board by the Registrar-General, and to state that they propose to sanction the alterations in the constitution of the sub-districts of Blackburn Registration District suggested by him.

I am, Sir,

Your obedient Servant,

W. E. KNOLLYS.

Assistant Secretary.

The Town Clerk,

Blackburn.

General Register Office.

Somerset House,

London, W.C..

7th July, 1905

Sir

I am directed by the Registrar-General to state that a vacancy in the office of Registrar of Births and Deaths for Witton Sub-District of Blackburn Registration District affords in his opinion a favourable opportunity for reducing the number of sub-districts into which that Registration District is at present divided, and for altering the boundaries of other sub-districts with due regard to the wards of Blackburn County Borough.

I am, therefore, to request the sanction of the Local Government Board, under the provisions of the 21st section of 37 and 38 Vict. cap. 88. to the following proposals, viz. :—

- (1) To dissolve Witton Sub-District of Blackburn Registration District.
- (2) To constitute St. Andrew's and St. Mark's Wards of Blackburn County Borough a separate Registration Sub-District, under the name of Blackburn Western.
- (3) To transfer the small part of St. Silas's Ward of Blackburn County Borough to Blackburn Northern Sub-District, in which the other and principal part of that ward is situated.
- (4) To transfer the rural Civil Parishes of Pleasington and Witton to Mellor Sub-District of Blackburn Registration District, and



- (5) To transfer the rural Civil Parishes of Livesey and Tockholes to Darwen Sub-District of Blackburn Registration District.

I am to state, for the information of the Local Government Board, that the Registrar-General has received a Deputation from the Blackburn Guardians on the subject, and that these proposals have their entire concurrence.

I am, Sir,

Your obedient Servant,

(sd.) A. C. WATERS,

Chief Clerk.

The Secretary,

Local Government Board,

Whitehall, S.W

#### ECONOMIC VALUE OF A REDUCED DEATH-RATE.

Dr. Farr has shown that each member of the community has a definite money value based upon the power of earning wages

The value in the case of each male has been estimated by taking as the standard a labourer, and capitalising the wages earned by him, the means of subsistence being deducted.

The average net value of each male life is found to be £150. Assuming that one-half of the 440 lives gained in 1905, on the average of the previous ten years, were males, there would be a net gain to the wealth of the community of £33,000.

Assuming also that the remaining 220 female lives were also equal to a certain money value, the net gain would exceed this sum

TABLE LXXIV.

NAME OF DISEASE	1895	1896	1897	1898	1899	1900	1901	1902	1903	1904	Average 1895 to 1904	1905
Cancer .....	0.65	0.65	0.57	0.74	0.63	0.77	0.71	0.69	0.70	0.81	0.69	0.85
Diarrhoea .....	2.27	0.84	1.19	1.59	0.87	1.33	1.04	0.53	0.76	0.94	1.13	0.70
Respiratory Diseases..	4.77	3.98	4.13	3.70	4.65	4.95	3.82	3.56	3.41	3.79	4.07	3.10
Measles .....	2.63	0.29	1.14	0.38	0.31	0.59	0.73	0.58	0.40	0.45	0.75	0.31
Erysipelas .....	0.05	0.05	0.04	0.04	0.03	0.02	0.02	0.02	0.007	0.02	0.02	0.01
Diphtheria .....	0.05	0.08	0.04	0.25	0.58	0.71	0.48	0.17	0.19	0.08	0.26	0.24
Scarlet Fever .....	0.06	0.06	0.05	0.12	0.10	0.65	0.45	0.22	0.09	0.09	0.18	0.57
Typhoid Fever .....	0.22	0.26	0.28	0.23	0.31	0.23	0.13	0.17	0.11	0.15	0.20	0.11
Whooping Cough ..	0.57	0.36	0.64	0.03	0.41	0.41	0.17	0.17	0.10	0.72	0.35	0.08
Old Age .....	0.75	0.75	0.95	0.77	0.98	0.75	0.77	0.82	0.96	1.15	0.86	1.04
Influenza.....	0.43	0.15	0.30	0.19	0.23	0.64	0.15	0.20	0.20	0.12	0.26	0.15
Premature Birth ...	0.82	0.53	0.56	0.61	0.67	0.74	0.53	0.53	0.63	0.60	0.62	0.50
Nervous Diseases ..	2.51	2.15	1.97	2.21	1.98	2.07	1.79	1.55	1.41	1.44	1.90	1.52
Digestive Diseases	1.83	1.65	1.69	2.59	1.83	1.22	1.13	0.73	0.56	0.59	1.38	0.63
Urinary Diseases ...	0.50	0.40	0.35	0.33	0.48	0.51	0.54	0.46	0.44	0.52	0.45	0.58
Phthisis .....	1.29	1.14	1.19	1.22	1.20	1.16	1.17	1.25	0.93	0.94	1.14	1.06
Heart Diseases .....	1.33	1.29	1.45	1.29	1.41	1.32	1.25	1.28	1.44	1.47	1.35	1.16
Other Tubercular Diseases (excluding Tabes Mesenterica)	0.65	0.33	0.28	0.22	0.35	0.39	0.44	0.57	0.48	0.34	0.40	0.42
Tabes Mesenterica ...	0.44	0.25	0.43	0.27	0.15	0.37	0.27	0.18	0.21	0.30	0.28	0.20
Ill-defined .....	1.17	1.11	1.29	1.63	1.46	1.43	0.85	0.94	0.57	0.37	1.08	0.85
Violence ... ..	0.51	0.50	0.42	0.40	0.57	0.55	0.52	0.47	0.45	0.43	0.48	0.45

Table showing gains and losses in the death-rate per 1000 persons living in the year 1905, as compared with the average rate of ten years 1895-1904 :—

**TABLE LXXV.—GAINS.**

NAME OF DISEASE.	Average rate during 10 y'rs 1895-1904.	Rate during 1905.	Gains per 1000	Probable No. of lives gained.
All Causes . . . . .	19·52	16·44	3·08	440
Diarrhœa . . . . .	1·13	0·70	0·43	62
Respiratory Diseases..	4·07	3·10	0·97	139
Measles . . . . .	0·75	0·31	0·44	63
Diphtheria . . . . .	0·26	0·24	0·02	3
Typhoid Fever . . . .	0·20	0·11	0·09	13
Influenza . . . . .	0·26	0·15	0·11	16
Premature Birth . . . .	0·62	0·50	0·12	17
Nervous Diseases . . .	1·90	1·52	0·38	54
Digestive Diseases . .	1·38	0·63	0·75	107
Phthisis . . . . .	1·14	1·06	0·08	11
Tabes Mesenterica . .	0·28	0·20	0·08	11
Ill-defined . . . . .	1·08	0·85	0·23	33
Violence . . . . .	0·48	0·45	0·03	4
Heart Diseases . . . .	1·35	1·16	0·19	27
Erysipelas . . . . .	0·02	0·01	0·01	1
Whooping Cough . . .	0·35	0·08	0·27	39
Gross Gains . . . . .			4·20	600

**LOSSES.**

NAME OF DISEASE.	Average rate during 10 y'rs 1895-1904	Rate during 1905.	Losses per 1000	Probable No. of lives lost
Cancer . . . . .	0·69	0·85	0·16	23
Scarlet Fever.....	0·18	0·57	0·39	56
Urinary Diseases . . .	0·45	0·58	0·13	19
Other Tubercular Diseases excluding Tabes Mesenterica	0·40	0·42	0·02	3
Old Age . . . . .	0·86	1·04	0·18	25
Other Diseases . . . .	1·67	1·91	0·24	34
Gross Losses . . . . .			1·12	160

Nett gain 3·08 or 440 lives.

The death of a person in a population of 132,742 corresponds to a rate of 0·007 per 1000. Hence the saving or loss of a rate of:—0·007 means the saving or loss of one human life

similarly 0·035     "     "     "     five     "     lives  
 and 0·070     "     "     "     ten     "     "  
 therefore 3·080     "     "     "     440     "     "

BLACKBURN UNION. Poor Law Relief Statistics.  
TABLE LXXVI.

	Half-year ended Lady Day, 1905.	Half-year ended Mich'lmas, 1905.	Total.
	£ s. d.	£ s. d.	£ s. d.
Cost of Out-door relief in Township of Black- burn .....	4463 5 3	4014 4 4	8477 9 7
	Persons in receipt of relief on July 1, 1905	Persons in receipt of relief on Jan. 1, 1906	
Males .....	277	327	
Females .....	771	802	
Children .....	433	478	
Total .....	1481	1607	

Statement of the number of Indoor Paupers relieved in the Blackburn  
Union Workhouse.

	Persons in receipt of relief on July 1, 1905	Persons in receipt of relief on Jan. 1, 1906	Total.
Able-bodied .....	177	276	
Not Able-bodied ... ..	265	286	
Insane.....	101	102	
Children ... ..	47	49	
Totals .....	590	713	
Numbers included in above statement who were inmates of the Workhouse Infirmary	129	139	
Children in Cottage Homes .....	89	101	
	Half-year ended Lady Day, 1905.	Half-year ended Mich'lmas, 1905.	
Vagrants ... ..	11742	10963	22705

I am indebted to Mr. C. E. Bygrave for these figures, which have an indirect  
bearing upon the health conditions and statistics of the town.

## METEOROLOGICAL OBSERVATIONS.

The Meteorological Station is situated on an open site in the Corporation Park.

Daily readings of each instrument are taken at 9 a.m. These instruments are :—

- 1.—Maximum Thermometer (Phillips's).
- 2.—Minimum Thermometer (Rutherford's)
- 3.— Hygrometer
- 4 and 5.—Black and Bright Bulb Thermometers for Solar Radiation.
- 6.—Spirit Thermometer for Terrestrial Radiation.
- 7 and 8.—1ft. and 4ft. Earth Thermometers.
- 9.—Rain Guage.
- 10.—Anemometer
- 11.—Sunshine Recorder.
- 12.—Barometer (Fortin), kept at the Health Office.

A full description of the above instruments appeared in my Annual Report for 1903.

The total rainfall for 1905 was 34.98 inches, compared with 35.72 inches during 1904.

During 1905 rain fell on 223 days, compared with 231 in 1904.

The wettest month of 1905 was November.

The highest reading of the 4ft. Thermometer during 1905 was 57.8deg. F. on each day from July 25th to August 2nd inclusive.

During 1904 the reading of this Thermometer did not exceed 57deg. F., and during 1903 the reading kept below 56deg. F. throughout the year.

The monthly average reading of the 4ft Thermometer, however, during 1905, kept below 57deg. F.

The significance of this reading is referred to in the Section on Diarrhœa.

Also during 1905 there were 57 days without any bright sunshine, which was an improvement upon the years 1903 and 1904, when there were 111 and 98 days respectively without bright sunshine.



TABLE LXXVII.--METEOROLOGICAL REPORT FOR THE YEAR 1905.

	Mean Pressure		Mean Relative Humidity.	Mean of Maximum and Minimum Temperature.	Mean Temperature at 9 a.m. Readings	Under-ground Temperature		Mean Black Bulb in Vacuo.	Mean Bright Bulb in Vacuo.	Absolute extremes of Temperature.			Mean daily minimum on the grass.	Mean depression of minimum on grass below minimum in the shade.	Total bright sunshine.	Most sunshine in one day.		Direction of the Wind.							Mean daily movement of wind.	Total rainfall.		
	Station Level.	Sea Level.				Highest.	Lowest.			Date.	Am't.	Date				N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.					
January ..	29.867	30.222	89.4	39.0	37.3	38.09	41.1	51.3	40.7	48.5	8th	21.5	17th	29.4	7.5	25—2	4—0	31st	0	1	1	5	3	3	18	0	234.0	2.27
February	29.735	30.116	88.8	38.8	38.5	39.2	40.9	67.2	50.3	53.0	18th	26.5	12th	30.3	4.57	61—30	8—5	22nd	1	2	0	0	3	7	13	2	238.0	2.54
March ...	29.259	29.629	86.2	42.4	42.5	40.7	41.2	85.1	59.5	58.5	22nd	28.0	3rd	31.7	5.2	118—35	9—10	29th	2	2	0	2	4	7	14	0	231.4	2.62
April .....	29.460	29.830	83.2	42.4	42.7	43.4	43.5	88.2	60.6	56.5	15th	25.5	8th	32.4	4.8	111—45	11—50	25th	1	6	3	1	4	6	2	7	207.7	3.55
May .....	29.773	30.126	78.2	49.4	50.3	49.3	46.9	105.9	73.2	67.5	18th	30.0	22nd	35.6	6.5	196—35	13—35	17th	1	8	0	1	1	5	10	5	153.3	0.61
June .....	29.622	29.958	75.3	56.7	55.6	55.3	51.7	113.5	76.2	76.0	25th	40.0	{ 10 14	43.7	4.8	198—10	13—50	12th	0	12	1	4	3	6	3	1	189.8	2.89
July .....	29.700	30.022	76.7	59.5	60.3	60.7	56.4	118.3	81.04	78.0	9th	45.5	{ 6 28	47.2	5.5	199—50	13—30	4th	0	0	0	1	1	8	19	2	130.5	3.20
August ...	29.506	29.839	79.2	56.3	56.6	57.6	56.6	108.08	76.4	70.0	15th	42.5	31st	46.2	3.9	143—35	11—40	24th	1	5	1	3	4	4	10	3	156.6	3.47
September	29.629	29.976	84.7	53.8	52.9	53.7	54.8	99.4	70.6	61.5	7th	41.5	23th	39.7	10.38	90—25	9	20	14th	0	8	2	0	1	4	7	167.9	3.54
October ..	29.663	30.032	83.0	43.4	47.4	47.1	50.2	83.8	59.7	57	7th 9th	28.5 16th	31.2	5.5	85—0	9—5	16th	3	1	5	0	2	3	7	10	138.1	4.03	
November	29.330	29.704	90.1	40.0	39.6	36.01	45.9	64.2	50.7	50	4th 11th	25.0 19th	23.8	11.8	56—9	6—30	16th	1	7	2	2	7	4	4	3	184.6	5.33	
December	29.792	30.183	91.1	40.2	40.3	41.4	43.9	54.7	46.6	51.0	6th	30.0	31st	32.6	4.2	35—55	6—0	7th	0	4	2	0	9	6	10	0	224.6	0.93

## SUMMARY OF THE METEOROLOGICAL REPORT FOR 1905.

Mean monthly reading of the Barometer—29.969"

Highest daily reading of the Barometer—30.925"

January 28th

Lowest reading of the Barometer—28.671" on March 15th

Highest reading of the Maximum Thermometer—78°

July 9th

Lowest reading of the Minimum Thermometer—21.5°

on January 17th

Total rainfall during the year 34.98"

Number of days during the year on which rain fell—223

The greatest number of days on which rain fell in one month—

24. in April

The highest reading of the 4ft. Thermometer during the year—57.8° on July 25th, 26th, 27th, 28th, 29th, 30th and 31st and August 1st and 2nd.

The lowest reading of the 4ft. Thermometer during the year—39.8° on January 26th, 27th, 28th, 29th, 30th and 31st.

During the year there were 57 days without any bright sunshine.

## SUMMARY OF WIND RECORDS

Number of days in the year on which the prevailing wind was—

N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	Calm.
10	56	17	19	42	63	117	41	4

The total number of miles registered during the year was—68,521

The greatest number of miles registered during one day was—500 on March 11th

The least number of miles registered during one day was—28 on July 12th

TABLE LXXVIII.—TOTAL AMOUNT OF SUNSHINE RECORDED ON EACH DAY DURING 1904.

MONTH.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Totals for each Month.
	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
January .....	2 0	0 0	0 0	1 0	0 0	0 0	0 0	0 0	1 0	0 5	0 0	0 0	1 40	0 30	1 0	3 0	0 40	0 0	0 0	0 0	6 0	0 0	0 0	0 0	1 0	1 0	1 5	2 15	4 30	0 0	0 0	26 45
February.....	1 15	0 30	0 35	0 0	0 15	0 0	5 0	0 0	0 0	4 30	0 0	0 0	1 10	0 0	0 30	2 30	1 0	8 15	0 30	0 0	0 0	3 30	0 0	0 15	0 0	0 0	0 0	7 15	0 30	.....	.....	33 30
March.....	5 15	0 0	0 5	0 0	0 30	0 0	2 15	0 0	0 30	8 15	7 55	0 10	0 35	0 0	6 55	0 0	0 0	1 0	0 0	0 0	5 30	0 5	9 30	3 50	0 30	0 0	2 10	0 0	5 10	4 40	1 15	66 5
April .....	1 40	2 5	3 40	2 15	1 15	5 20	5 0	0 20	6 10	7 50	2 40	5 45	3 50	0 0	0 0	7 0	4 45	9 0	9 30	0 0	9 30	0 0	1 40	5 10	10 0	1 40	0 45	0 55	0 15	6 15	.....	118 15
May.....	5 0	6 40	6 15	9 45	0 0	2 50	0 0	0 0	3 10	2 0	3 0	0 0	2 20	6 30	6 45	7 10	7 15	8 20	11 0	9 15	0 0	0 0	1 0	0 15	1 30	1 0	0 5	0 45	3 30	6 50	1 45	113 55
June.....	0 50	0 15	13 30	14 0	14 0	10 30	3 10	7 10	8 25	8 10	8 50	9 15	0 0	3 30	0 35	8 30	8 10	4 10	0 0	3 15	3 5	0 0	8 0	0 25	0 15	7 5	10 10	11 45	11 0	9 10	... ..	187 10
July.....	6 35	8 30	9 15	0 50	0 10	0 30	12 30	11 15	10 0	13 5	13 15	9 40	8 5	6 35	1 10	9 35	2 30	12 10	10 30	0 10	4 0	2 40	1 10	4 40	1 0	0 20	0 50	2 30	2 40	1 30	7 0	174 40
August .....	9 0	5 45	12 35	0 30	9 15	2 55	7 50	12 0	4 10	8 15	1 20	8 0	2 0	5 0	4 30	6 15	0 0	8 10	4 15	10 30	0 0	0 0	1 10	4 20	0 14	1 0	6 0	5 50	10 25	2 45	0 50	154 49
September .....	0 25	2 10	9 20	7 20	4 30	3 45	5 30	0 0	8 45	6 30	8 45	0 0	6 15	1 0	2 0	2 5	9 0	10 0	9 30	8 40	4 15	0 10	2 0	0 30	2 10	2 15	3 45	0 50	5 0	0 0	.....	126 25
October .....	5 0	1 45	7 30	2 5	0 20	0 15	2 10	7 30	0 50	4 50	1 0	9 0	6 50	3 20	6 30	0 0	0 15	0 0	0 0	0 0	0 0	7 50	7 0	0 30	4 0	1 0	2 20	0 0	4 0	3 0	0 0	88 50
November .....	0 0	0 0	0 0	0 0	2 30	3 50	0 0	1 15	0 0	0 0	0 0	4 30	5 45	5 0	4 30	3 0	0 0	0 0	0 0	3 10	1 0	2 30	0 15	5 0	0 0	6 30	0 0	2 40	0 0	0 0	... ..	51 15
December .....	0 20	0 0	0 0	0 0	2 0	1 15	1 20	6 10	0 0	0 30	0 0	0 35	2 10	0 0	1 5	0 15	0 0	4 10	0 0	0 0	0 0	0 0	0 0	0 0	0 0	1 30	0 0	0 0	0 0	1 10	1 30	24 1

TABLE LXXIX.—TOTAL AMOUNT OF SUNSHINE RECORDED ON EACH DAY DURING 1905.

MONTH.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total for each Month.
	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
January .....	0 0	0 0	0 5	0 0	0 30	0 0	0 15	0 5	1 50	1 0	1 15	1 10	2 0	3 10	0 0	1 35	0 5	3 45	0 0	0 0	0 0	0 0	0 0	0 0	2 45	0 0	0 0	1 0	0 12	0 20	4 0	25 2
February .....	4 5	1 35	3 0	0 0	0 0	0 10	6 0	1 45	0 5	0 0	5 40	1 45	0 0	4 30	0 0	0 45	5 35	1 0	1 20	5 35	3 0	8 5	4 10	0 0	0 40	2 15	0 0	0 30	0 0	0 0	0 0	61 30
March .....	3 30	3 50	5 0	0 5	0 0	0 5	0 20	2 30	4 50	4 30	2 30	1 30	3 50	2 50	4 45	4 35	6 30	6 30	9 0	1 40	0 15	8 0	4 20	4 10	0 0	5 50	4 25	1 0	9 10	6 20	6 45	118 35
April .....	0 0	7 50	7 40	0 0	2 30	9 40	2 10	9 20	5 0	0 0	0 0	7 0	0 0	0 30	7 30	0 0	0 0	2 15	1 40	5 30	1 10	9 30	7 0	10 35	11 50	0 0	0 30	0 0	1 15	1 20	0 0	111 45
May .....	0 10	0 0	10 0	3 0	10 30	11 0	4 0	10 30	12 20	7 30	4 30	8 10	2 15	1 0	2 30	6 20	13 35	11 25	9 0	10 50	5 50	7 5	8 55	2 10	1 0	5 0	0 5	1 0	7 30	10 15	9 10	196 35
June.....	7 10	0 0	5 50	11 0	8 10	2 10	0 0	9 15	14 0	11 40	11 0	13 50	4 0	11 50	11 5	3 10	0 45	0 15	6 10	0 0	3 15	7 30	5 25	11 20	11 30	8 30	10 40	6 45	1 35	0 20	0 0	198 10
July.....	1 30	4 20	4 45	13 30	4 30	6 10	12 0	13 20	8 10	5 0	5 40	1 25	5 30	13 0	2 30	8 10	3 0	9 35	11 0	3 0	8 30	0 0	4 0	6 30	5 0	1 15	13 0	10 30	2 0	5 0	8 0	199 50
August ... ..	6 15	8 30	2 30	2 15	1 0	7 0	0 30	8 50	1 30	4 0	6 30	4 15	6 30	8 40	6 0	5 10	6 20	0 20	1 5	4 30	4 15	8 50	3 50	11 40	0 0	2 5	8 15	0 0	2 40	3 0	7 20	143 35
September .....	0 0	0 0	0 0	0 10	0 15	0 0	3 10	0 20	1 10	5 0	7 0	4 40	2 30	9 20	3 55	7 20	5 10	0 0	1 30	5 30	6 30	0 50	4 30	4 0	3 40	4 0	0 25	1 30	3 30	4 30	0 0	90 25
October ... ..	1 50	2 10	0 30	1 20	5 0	9 0	0 0	0 0	1 0	0 40	0 15	0 0	2 25	1 0	0 0	9 5	3 10	1 25	7 25	6 15	3 50	6 5	0 15	3 0	3 30	0 30	6 30	0 0	4 30	3 10	1 10	85 0
November ... ..	0 0	1 0	0 20	2 30	0 0	1 30	6 0	5 30	4 30	0 30	0 15	0 20	0 5	1 0	5 30	6 30	1 45	2 40	3 30	0 4	0 10	0 0	1 0	4 5	0 0	0 10	2 10	0 0	5 5	0 0	0 0	56 9
December .....	3 20	0 0	0 0	0 0	1 10	3 0	6 0	3 15	4 10	0 10	2 0	0 0	0 0	0 0	3 30	0 0	0 0	0 0	0 15	0 0	0 0	0 0	0 0	1 40	0 0	1 5	3 0	0 0	0 0	3 20	0 0	35 55





## MEAT INSPECTION AND FARM INSPECTION.

Full details respecting the Inspection of Meat and Dairy Cattle will be found in the Report of the Veterinary Inspector, which follows my covering remarks.

The total number of carcasses destroyed shows a decrease of 41 carcasses, when compared with the number destroyed during 1904.

The following are the figures of condemned carcasses for the last five years: —

Carcasses of—

Year.	1901.	1902.	1903.	1904.	1905.
Beef .....	183	... 228	... 219	... 215	... 198
Mutton .....	60	... 72	... 70	... 64	... 66
Veal .....	135	... 164	... 85	... 106	... 90
Pork .....	32	... 6	... 16	... 34	... 24
	and 1 goat.		and 1 goat.		
Total ...	411	... 470	... 391	... 419	... 378

The diminution occurred in Beef, Veal, and Pork. There was a slight increase in the number of carcasses of condemned Mutton.

There has been an increase in the number of animals slaughtered at the Public Abattoir during 1905, as compared with the year 1904.

And there has been a decrease in the number of carcasses brought to the Public Abattoir during 1905 as compared with the previous year.

It would appear that there is still an increasing sale for Colonial and Foreign Meat. Also it has been stated that there is a large export to foreign countries of the finest breed of cattle in this country, and the opinion has been expressed in the "Meat Trades Journal" that the beef cattle of England itself wants "grading up."

The inspection of meat at the Public Abattoir has again been carried out with the greatest care, and diseases of organs or any part of the carcass have been recorded accurately in the registers prepared specially and kept for that purpose.

A copy of a page from one of the registers, showing the different headings, appeared in my Annual Report for 1904.

The tuberculous carcasses which have been examined have been classified into cows, heifers, bulls, bullocks, calves, and pigs.

A total number of 10,710 of these six groups of animals were slaughtered during 1905, of which 625 were tuberculous, or a percentage of 5.83.

Similar percentages for the years 1902, 1903, and 1904 were respectively 6.0, 5.19, and 6.07.

Tuberculosis was present in only one sheep out of a total number slaughtered of 30,716.

Of the above 626 tuberculous carcasses, 122, or 19.4 per cent., were rejected.

The percentage of tuberculous carcasses rejected during 1904 was 22.1.

Of the above 626 tuberculous carcasses examined, 462 were cows, or 73.8 per cent.



The percentage of tuberculous cows during 1904 was 83.6 per cent.

Of the above 462 tuberculous cows examined 97, or 21 per cent. were rejected.

It is interesting to note that 604 out of the 626 tuberculous animals had Tuberculosis of the Lungs. The serous membranes of the thoracic cavity were the next most commonly affected parts. Then, in order, the following parts were affected:—Liver, abdominal serous membranes, kidneys, spleen, intestines, stomach, uterus, heart, and bones.

A similar order prevailed in 1904.

The table showing the tuberculous udders at the Abattoir is again very instructive. All these were examined microscopically at the Fever Hospital Laboratory. The 44 tuberculous udders occurred in 2,587 cows, or 1.7 per cent.

The percentages of tuberculous udders for the years 1902, 1903, and 1904 were 1.5, 1.9, and 2.0 respectively.

Twenty-five of these 44 cows with tuberculous udders were giving milk until the day of slaughter, and milk from 8 of these 25 cows was being sold in Blackburn.

Regarding the extent of the tuberculous process in these 44 cows, 21 exhibited the disease in a generalised form, and were rejected.

As I have stated previously, closure of all the private slaughter-houses in the Borough, so that all slaughtering could be carried out at the Public Abattoir, would ensure the process being carried out under satisfactory conditions, and also a more complete inspection of carcasses.

The inspection of dairy cows at the 100 farms within the Borough has again been carried out with skill and care by Mr. Stirling, the Veterinary Inspector. Of the 44 cows with tuberculous udders only 2 came from farms in Blackburn. The sale of milk from the affected cows was stopped promptly, and the same were disposed of satisfactorily.

There has been an increase during 1905 in the amount of tuberculosis amongst pigs. Seventy-one out of 3,513 pigs slaughtered were found to be tuberculous, compared with 30 tuberculous pigs out of 3,182 pigs slaughtered during 1904.

It is interesting to note that in 59 pigs the lungs were affected, and in 38 the liver was affected.

Tuberculosis of the lungs would indicate that infection had probably resulted from inhalation, and in Tuberculosis of the Liver from injection of tuberculous material.

In this connection the following statement, prepared at my request by the Veterinary Inspector, is of much interest.

## TUBERCULOSIS IN PIGS.

During the last two years there has been a great increase in the number of cases of Tuberculosis in locally fed swine slaughtered at the Abattoir and private slaughter-houses in Blackburn. To ascertain the cause, if possible, investigation was made at the farms from which the pigs had been brought, and it was generally found that the pigs had been fed with milk drawn from cows with tuberculous udders. The number of tuberculous pigs examined during the following years were:—

YEARS :	1899	1900	1901	1902	1903	1904	1905
PIGS :	0	3	0	3	3	30	71

The cases for 1905 are detailed as follows:—

Number of Case	Number of Pigs.	Date of Examination.	Where from.	Tuberculous Cows slaughtered at the Abattoir, Cows suffering from Udder Tuberculosis found at farms, any other probable source of infection, &c.
1	1	Jan. 11	S. B., Blackburn	No information could be obtained.
2	1	" 27	C. W., Blackburn	
3	1	Feb. 23	M. Blackburn	
4	1	" 24	R. H. Blackburn	
5	2	Mar. 3	J. T. E. Peasington	
It is recorded in the P.M. Register that three tuberculous cows from this farm were slaughtered at the Abattoir on Aug. 15, Sept. 26, and Nov. 30 respectively. One cow generally tuberculous was rejected, and the others passed.				

# TUBERCULOSIS IN PIGS - Continued.

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Number of Case.	Number of Pigs.	Date of Examination.	Where from.	Tuberculous Cows slaughtered at the Abattoir, Cows suffering from Udder Tuberculosis found at farms, any other probable source of infection, &c.
6	5 1	Mar. 10 Nov. 1	W. T., Blackburn	On Nov. 3 I visited this farm and examined the udders of 15 cows, which I found normal. The farmer informed me that he had sent a cow suffering from generalised tuberculosis to the knacker's yard three weeks previous to my visit.
7	1	Mar. 16	T. W., Blackburn	This pig was purchased by F. W. from a stranger, so no information could be obtained.
8	13	April 12 to April 27	A. H., Blackburn	On April 12th I visited this farm and examined the udders of 40 dairy cows. I found that four of them had diseased udders, two of which I certified as tuberculous.
9	3	April 27 " 28	J. C., Witton	On May 3rd I visited this farm and examined the udders of 10 dairy cows. I certified that two of the cows were suffering from tuberculous udders. Both cows were injected with tuberculin, and each gave a decided reaction. A sample of milk from each cow was obtained and forwarded to Professor Delapine, who found that both samples caused tuberculosis by inoculation. The farmer was advised to slaughter the cows at once. This was carried out in one case only, and the carcase rejected. He sold the other cow to a dealer, and it could not be traced.
10	1	May 2	H., Houghton	No information could be obtained.
11	1	" 3	S. Mellor	Do.
12	1	" 3	B. & D., Blackburn	Do.

# TUBERCULOSIS IN PIGS — Continued.

Number of Case.	Number of Pigs.	Date of Examination.	Where from.	Tuberculous Cows slaughtered at the Abattoir, Cows suffering from Udder Tuberculosis found at farms, any other probable source of infection, &c.
13	1	May 12	R. H., Blackburn	No information could be obtained
14	1	" 13	E. R., Mellor	On May 15th I visited this farm and examined the udders of 20 dairy cows, which I found normal.
15	5	May 31 to June 1	G. L., Balderstone	Farm not visited, as no milk is sent into Blackburn.
16	1	June 7	B. M. C., Pleasington	No information could be obtained.
17	2	Aug. 2	— Knuzden	Do.
18	2	Sept. 8 and Dec. 19	J. O'N., Ireland	Do.
19	1	Sept. 13	R. T., Blackburn	No milk or offal given to this pig while in R. T.'s possession. No previous case.
20	2	Oct. 25	E. C., Blackburn	A tuberculous pig from same piggery slaughtered and rejected on Nov. 15th, 1904.
21	1 2 6	Oct. 11 Dec. 21 " 28	J. G., Balderstone.	Three tuberculous cows from this farm were slaughtered at the Abattoir on March 15th and April 4th and 10th respectively. Two of the cows had tuberculous udders.

Number of Case.	Number of Pigs.	Date of Examination.	Where from.	Tuberculous Cows slaughtered at the Abattoir, Cows suffering from Udder Tuberculosis found at farms, any other probable source of infection, &c.
22	7	Nov. 2	A. Livesey	On Nov. 3rd I visited this farm and examined 20 cows. One of the cows examined was suffering from mammitis, which in my opinion was not of a tuberculous nature. The P.M. Register shows that a tuberculous cow from this farm had been slaughtered at the Abattoir on Aug. 31st.
23	2	" 16	S. B., Blackburn	A tuberculous cow from this farm was slaughtered and passed at the Abattoir on March 20th, udder tuberculous. On July 4th I examined 22 dairy cows at this farm and found that three of them had abnormal udders. On July 6th I tested the three cows with tuberculin and obtained two reactions. Temperature 105deg. F. and 106.1deg. F.
24	2	Dec. 5	R. W., Blackburn	Offal had been eaten by these pigs. A tuberculous pig from this farm slaughtered and examined 29th Sept., 1904.
25	1	" 7	N. Little Harwood	A tuberculous cow from this farm was slaughtered and passed on Jan. 25.
26	1	" 20	J. W., Blackburn	Visited the farm on Dec. 28th and examined the udders of 28 cows, which I found normal.
27	2	" 21	S., Salisbury	A tuberculous cow from this farm was slaughtered and rejected at the Abattoir on April 13th. Udder tuberculous.

## SUMMARY.

Tuberculosis was probably caused in cases 5, 6, 8, 9, 21, 22, 23, Case 24 was probably caused by the ingestion of tuberculous offal.  
 25 and 27 by the ingestion of tuberculous milk. Case 20 probably infected from previous case in 1904.

In the other cases no proper information could be obtained.



Visits paid to farms from which tuberculous pigs had been sent resulted in 4 cases in the discovery of cows with tuberculous udders. The connection between the feeding of pigs with milk from cows with tuberculous udders was referred to in my Annual Report for 1903.

It is, therefore, very important that the public should not be supplied with milk from cows with tuberculous udders.

Twenty-two samples of milk were taken from farms and milk-carts in Blackburn, and sent to the Public Health Laboratory at Manchester in sterilised bottles, so that they might be examined bacteriologically and by inoculation.

Two of the above were found to cause tuberculosis, and the necessary steps were taken. The remaining 20 were found not to cause tuberculosis.

Copies of the forms which are filled up when samples of milk are collected for the above purpose are given below.

N.B.—After entering on this label all the information obtainable, the sample of milk should be sent to the **Director of the Public Health Laboratory, Manchester**, without the slightest delay. If an interval of more than six hours must elapse between the time of milking and the time of arrival of the sample at the Laboratory, the bottle containing the sample should be packed in ice. Suitable refrigerators may be obtained by application at the Laboratory.

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**Milk collected at Railway Stations, or other places away from farm.**

Name of station or place..... No. of Can.....  
 Name of farm..... of farmer.....  
 Situation of farm.....  
 Probable time of milking.....  
 Railway station nearest to farm.....  
 Destination of milk.....  
 State of milk can..... Size.....gallons. No. on Can.....  
 Temperature of milk.....  
 Has the sample been collected in such a way as to avoid accidental contamination?.....  
 Date of collection.....  
 Signature of Inspector..... Authority.....

N.B.—After entering on this label all the information obtainable, the sample of milk should be sent to the **Director of the Pathological Laboratory, Owens College, Manchester**, without the slightest delay. If an interval of more than six hours must elapse between the time of milking and the time of arrival of the sample at the Laboratory, the bottle containing the sample should be packed in ice. Suitable refrigerators may be obtained by application at the Laboratory.

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**Milk collected at Farm or Dairy.**

Name of farm..... of farmer.....  
 Situation of farm.....  
 Mixed { State of shippon.....  
       Milk { No. of cows in shippon.....  
 Unmixed { Description of cow, or No. of reference.....  
       milk. { State of cow.....  
               { Evidences of disease.....  
               { Result of tuberculin test.....  
               { Quantity of milk yielded in 24 hours.....  
 Date of collection of sample.....A.M.....P.M.  
 Time of milking.....A.M.....P.M.  
 Has the sample been collected in such a way as to avoid accidental contamination?.....  
 Signature of Inspector..... Authority.....

The following letter was sent to each farmer in the Borough:—

Public Health Department,

51, Ainsworth Street.

Blackburn. April 18th. 1905.

Dear Sir,

The following description of the symptoms present in a cow's udder affected by Tuberculosis has been prepared in order to assist farmers in the Borough to detect this disease.

I would also draw your attention to the following subsection from the Blackburn Corporation Act of 1901:—

“Every dairyman who supplies milk within the Borough and has in his dairy any cow having or suspected or exhibiting signs of having Tuberculosis of the udder, shall forthwith give written notice of the fact to the Medical Officer, stating his name and address and situation of the dairy or premises where the cow is.

“Any dairyman failing to give such notice as required by this sub-section shall be liable to a penalty not exceeding forty shillings.”

The following are the chief indications of Tuberculosis of the Udder: —

1. Tuberculosis most frequently affects one of the posterior quarters of the udder, but all four quarters may be diseased.
2. The udder is usually diseased some considerable time before any change can be detected by handling.
3. In the early stages the diseased quarter or quarters are swollen and become somewhat hard. Hard lumps can be felt in their substance, and NO PAIN is shown by the cow when these lumps are firmly squeezed by the hand. A tuberculous quarter always feels hard, enlarged, and irregular. The diseased parts finally become very firm, stiff, and as hard as wood. The skin over the diseased quarters is smooth and tense.
4. To the naked eye the milk at first appears to be unchanged, but after some weeks it becomes thin, poor in fat, and watery. Tubercle bacilli are present in the milk from such udders.

Yours faithfully,

ALFRED GREENWOOD.

Medical Officer of Health.

# VETERINARY INSPECTOR'S REPORT ON MEAT INSPECTION AND INSPECTION OF DAIRY CATTLE, ETC.

Public Health Office,

Blackburn.

January 27th, 1906.

To the Medical Officer of Health.

Sir,

I have pleasure in submitting to you my Report for the year 1905.

During that period 1,022 diseased carcasses were examined at the Public Abattoir and private slaughter-houses in the Borough, 354 of them being rejected and destroyed as unfit for human food. Twenty-four immature carcasses of veal were also destroyed, making the total number of carcasses destroyed 378. Compared with last year, this return shows a decrease of 31 diseased carcasses, and 10 immature carcasses destroyed.

During the year 3,457lbs. of unsound meat, 74 rabbits, 25½ brace of grouse, 20 fowls, 27 tins of pickled pork, tongues, etc., and a large quantity of fish were also destroyed. The total weight of the rejected carcasses, organs, meat, etc. (excluding fish), during the year was 64 tons 7 cwts. 3 qrs.

Two private slaughter-houses have been abolished, the number in the Borough now being 17.

The following tables refer to the number of animals slaughtered at the Abattoir, the amount of dead meat brought to the Abattoir, the number of tuberculous carcasses and udders examined, the number of carcasses destroyed, and numerous other particulars relating to the inspection of meat and dairy cattle.

TABLE LXXX.  
NUMBER OF ANIMALS SLAUGHTERED AT THE  
PUBLIC ABATTOIR.

1905.	Beasts.	Sheep.	Goats	Calves.	Pigs.
January .....	509	194 <sup>2</sup>	...	92	379
February .....	450	1269	...	98	373
March .....	452	1408	...	169	345
April .....	432	963	...	265	231
May .....	515	1776	1	97	257
June .....	360	3146	1	74	135
July .....	346	3608	...	121	108
August .....	417	3778	...	163	147
September .....	441	3368	...	126	223
October .....	466	3194	1	195	380
November .....	584	3795	1	208	387
December .....	492	2469	5	125	548
Totals .....	5464	30716	9	1733	3513

Compared with last year this table shows an increase of 209 Beasts, 2164 Sheep, 4 Goats, and 331 Pigs ; also a decrease of 9 calves.

TABLE LXXXI.  
NUMBER OF CARCASSES AND AMOUNT OF MEAT  
BROUGHT TO THE ABATTOIR.

1905.	CARCASSES.		BEEF.			PORK.
	Beef.	Mutton.	Hind Quarters.	Buttocks	Clods	Boxes.
January .....	130	475	30	6	4	..
February .....	113 <sup>1</sup> / <sub>2</sub>	770	21	1	...	...
March .....	131	1003	26	...	...	...
April .....	107	1217	46	...	9	2
May .....	103	1002	48	5	10	...
June .....	74	230	54	2	9	...
July .....	72 <sup>1</sup> / <sub>2</sub>	...	36	...	7	...
August .....	108	...	79	4	10	...
September .....	133 <sup>1</sup> / <sub>2</sub>	..	40	2	6	...
October .....	148 <sup>1</sup> / <sub>2</sub>	...	36	...	7	...
November .....	180	...	46	...	...	...
December .....	80	...	72	..	...	41
Totals...	1381	4697	534	20	62	43

Compared with last year this table shows a decrease of 91 Carcasses of Beef, 378 Carcasses of Mutton, 15 Buttocks, and 35 Clods of Beef. There is an increase of 99 Hind Quarters of Beef and 22 Boxes of Pork



TABLE LXXXII.—TUBERCULOUS CARCASSES EXAMINED AND REJECTED.

1905.	Cows.		Heifers.		Bulls.		Bullocks.		Calves.		Sheep.		Pigs.		Totals.	
	Exam'd	Rejected	Exam'd	Rejected	Exam'd	Rejected	Exam'd	Rejected	Exam'd	Rejected	Exam'd	Rejected	Exam'd	Rejected	Exam'd	Rejected
January.....	50	4	5	1	2	...	...	...	...	...	...	...	2	1	59	6
February.....	38	3	2	...	1	...	...	...	...	...	...	...	2	1	43	4
March.....	39	8	3	2	5	...	...	...	...	...	...	...	8	2	55	12
April.....	42	8	1	...	1	...	...	...	1	...	...	...	16	...	61	8
May.....	35	10	3	1	4	...	1	...	...	...	...	...	8	1	51	12
June.....	28	5	1	1	3	...	...	...	...	...	...	...	3	...	35	6
July.....	33	9	1	...	...	...	...	...	...	...	...	...	...	...	34	9
August.....	33	7	11	4	8	...	2	1	...	...	...	...	2	...	56	12
Sept.....	53	11	10	1	2	...	...	...	...	...	...	...	2	...	67	12
October.....	37	11	4	1	1	...	...	...	2	1	...	...	2	2	47	15
Nov.....	30	9	6	2	1	...	...	...	1	...	...	...	10	1	48	12
Dec.....	44	12	4	1	6	...	1	...	...	...	...	...	15	1	70	14
Totals...	462	97	51	14	34	...	4	1	3	1	1	...	71	9	626	122

TABLE LXXXIII.—Tuberculous Cows exhibiting Tuberculous Disease in the Mammary Glands.

1905	No. of Cow	Age.	Where From.	Extent of the Tuberculous Process.			Was she giving milk on the day of slaughter.	Was Milk from the farm sold in Blackburn.	Result of Examination of the Carcase.
				Generalized	Localized	Udder.			
Feb. 15	1	aged	Livesey .....	No	Yes	Left anterior and posterior quarters .....	Yes	Yes	passed
" 23	2	aged	Feniscowles .. ..	No	Yes	Right posterior quarter .. ..	No	Yes	passed
Mar. 7	3	aged	Hapton .....	No	Yes	Every quarter .....	Yes	No	passed
" 15	4	aged	Salford .....	No	Yes	Left posterior quarter .. ..	No	No	passed
" 20	5	aged	* Fenisccliffe.....	No	Yes	Right anterior quarter .....	No	Yes	passed
" 21	6	aged	Pleasington .. ..	Yes	No	Both posterior quarters .....	Yes	Yes	rejected
April 4	7	aged	Osbaldeston .....	Yes	No	Right anterior and posterior quarters.....	Yes	No	rejected
" 4	8	aged	Clitheroe .....	No	Yes	Right posterior quarter .. ..	No	No	passed
" 10	9	aged	Salford .....	No	Yes	Right posterior quarter .....	Yes	No	passed
" 12	10	aged	Mytton .....	No	Yes	Right anterior and posterior quarters.....	No	No	passed
" 13	11	aged	Salesbury .....	Yes	No	Both posterior quarters .....	No	Yes	rejected
" 13	12	aged	Edinburgh .....	No	Yes	Every quarter .....	No	No	passed
" 18	13	aged	Clitheroe .. ..	No	Yes	Left posterior quarter.....	Yes	No	passed
" 25	14	aged	Clitheroe .....	No	Yes	Left anterior and posterior quarters .....	Yes	No	passed
" 28	15	3 yrs	* Union Workhouse ..	No	Yes	Right posterior quarter .....	Yes	No	passed
" 29	16	aged	Padiham .....	Yes	No	Every quarter .....	Yes	.....	passed
May 2	17	aged	Withnell .....	No	Yes	Left anterior quarter .. ..	Yes	No	rejected
" 4	18	aged	Witton .....	Yes	No	Roth posterior quarters .....	Yes	No	passed
" 4	19	aged	Whalley .....	Yes	No	Both posterior quarters .....	Yes	Yes	rejected
" 10	20	aged	Clitheroe .....	Yes	No	Left anterior and posterior quarters .....	Yes	No	rejected
" 11	21	aged	Clayton-le-dale.....	Yes	No	Every quarter .. ..	Yes	Yes	rejected
" 11	22	aged	Clayton-le-dale.....	Yes	No	Left posterior quarter.....	Yes	Yes	rejected
" 11	23	aged	Feniscowles .....	No	Yes	Right posterior quarter .....	Yes	Yes	passed
" 6	24	aged	Darwen .....	Yes	No	Every quarter .....	Yes	Yes	rejected
" 25	25	aged	Waterfoot .....	No	Yes	Left anterior quarter .. ..	No	No	passed
" 29	26	aged	Langho .....	No	Yes	Left posterior quarter.....	No	No	passed
July 14	27	aged	Pleasington .....	Yes	No	Right posterior quarter .....	Yes	Yes	rejected
" 18	28	aged	Salford.....	No	Yes	Right posterior quarter .....	Yes	No	passed
" 20	29	aged	Little Harwood .....	Yes	No	Right anterior and both posterior quarters	Yes	Yes	rejected

TABLE LXXXIII.—continued.

1904	No. of Cow	Age.	Where from	Extent of the Tuberculous Process.		Was she giving milk on the day of slaughter.	Was milk from the farm sold in Blackburn.	Result of Examina- tion of the Carcase.
				Gener- alized.	Local- ized.			
July 26	30	aged	Preston...	No	Yes	Left posterior quarter.....	No	passed
Aug. 11	31	aged	Church.....	No	Yes	Both posterior quarters.....	No	passed
Oct. 17	32	aged	Whalley.....	Yes	No	Left anterior and posterior quarters.....	No	rejected
" 20	33	aged	Wadlington.....	Yes	No	Left anterior and both posterior quarters.....	No	rejected
" 21	34	aged	Sawley.....	Yes	No	Every quarter.....	No	rejected
" 24	35	aged	Pleasington.....	Yes	No	Left posterior quarter.....	No	rejected
" 25	36	aged	Tockholes.....	Yes	No	Left anterior and posterior quarters.....	No	rejected
" 31	37	aged	Clitheroe.....	No	Yes	Right anterior and posterior quarters.....	No	passed
Nov. 1	38	aged	Rimington.....	No	Yes	Right anterior and posterior quarters.....	No	passed
" 13	39	aged	Preston.....	No	Yes	Both posterior quarters.....	No	passed
" 15	40	aged	Oswaldtwistle.....	Yes	No	Left anterior and posterior quarters.....	No	rejected
" 28	41	aged	Pleasington.....	No	Yes	Right posterior quarter.....	Yes	passed
D.C. 1	42	aged	Salford.....	No	Yes	Right anterior quarter.....	No	passed
" 1	43	aged	Darwen.....	Yes	No	Left posterior quarter.....	Yes	rejected
" 6	44	3 yrs	Mellor.....	Yes	No	Every quarter.....	No	rejected

Those marked \* were from cowsheds within the borough.

**TABLE LXXXIV.**—TUBERCULOSIS IN THE ANIMALS SLAUGHTERED DURING THE TWELVE MONTHS ENDING 31st DECEMBER, 1905.

EXTENT OF THE TUBERCULOUS PROCESS															
Kind of Animal	Number Slaughtered.	Of which were Tuberculous	THORAX				ABDOMEN.								
			Lungs	Heart and Pericardium	Serous Membranes	Livers	Stomachs	Spleens	Kidneys	Intestines	Uteri	Serous Membranes	Bones		
Cows .....	2587	462	455	24	313	214	81	78	101	82	31	139	11	...	44
Heifers .....	678	51	50	4	41	18	7	8	6	7	..	16	..	...	...
Bulls .....	995	34	32	2	25	18	5	7	1	4	...	10	...	...	...
Bullocks .....	1204	4	4	..	1	1	1	1	..	1	...	1	1	...	...
Calves .....	1733	3	3	...	2	2	1	1	...	1	...	1	...	...	...
Sheep .....	30716	1	1	...	1	...	...	...	...	...	...	...	...	...	...
Pigs .....	3513	71	59	..	8	38	...	9	...	1	..	1	3	...	...
Totals .....	41426	626	604	30	392	291	95	104	108	96	31	168	15	...	44

TABLE LXXXV.

DISEASED CARCASSES EXAMINED, REJECTED, AND  
DESTROYED FOR DISEASES OTHER THAN  
TUBERCULOSIS.

## CARCASSES.

BEEF.	MUTTON.	GOATS.	VEAL.	PORK.
2 Anthrax 1 Actinomycosis, &c. 1 Anasarca 1 Fractured Bones, &c. 4 Conditions incidental to difficult part- urition 2 Enteritis 3 Extensively Bruised, &c. 4 Emaciated 2 Pulmonary Gangrene 1 Gastritis 1 Congested Putrid 2 Icterus Nephritis Parturient Apoplexy 1 Pericarditis, &c. 4 Peritonitis 4 Pneumonia 10 Rheumatism 20 Septicæmia 5 Staggers 4 Septic Metritis 2 Septic Pneumonia 1 Suffocated 5 Symptomatic Anthrax 1 Tympanitis, &c. 1 Unmarketable	10 Anasarca 2 Anthrax 1 Diseased Bones 5 Congested, ill bled 1 Conditions inci- dental to diffi- cult parturition 1 Catarrhal Pneumonia 1 Enteritis 18 Emaciated 2 Extensively bruised 6 Parasitic disease of lungs and liver 1 Pneumonia 4 Putrid 4 Suffocated 3 Tympanitis 7 Unmarketable		3 Anasarca 16 Arthritis 6 Emaciated 11 Congested, ill bled 4 Pneumonia 3 Icterus 4 Putrid 5 Septicæmia 2 Septic Arthritis 10 Unmarketable 1 White Scour 24 Immature	1 Arthritis 1 Anasarca 2 Cirrhosis of Liver 1 Anthrax 2 Congested, ill bled 1 Emaciated 2 Gastritis 1 Hepatitis 2 Icterus 1 Pleurisy 1 Unmarketable
Totals 86	66	—	89	15



## Total Number of Carcases Destroyed.

### Kind of Carcase—1905.

Beef.....198—including 112 tuberculous, 2 anthrax,  
5 symptomatic anthrax, and 1 actinomycosis

Mutton.....66—including 2 anthrax.

Veal.....90—including 1 tuberculous.

Pork.....24—including 9 tuberculous and 1 anthrax.

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Total.....378 carcases.

### DISEASED ORGANS, &c. REJECTED & DESTROYED.

1905	Heads.	Sets of Lungs.	Hearts.	Diaphragms.	Livers.	Stomachs.	Spleens.	Kidneys.	Udders.
For Tuberculosis.	7	469	10	32	186	12	22	89	44
For diseases other than Tuberculosis	5	142	110	17	332	22	17	84	48
Totals...	12	611	120	49	518	34	39	173	92

### DISEASED TISSUES, ETC., FORWARDED TO THE FEVER HOSPITAL LABORATORY FOR BACTERIOLOGICAL EXAMINATION.

Sections of cows' udders for tubercle bacilli .....	44
Sections of muscles for symptomatic anthrax bacilli.....	1
Sections of livers, lungs, spleens, and kidneys for anthrax bacilli .....	11
Section of cow's tongue for ray fungus .....	1
Cow's skin and hair for trycophyton tonsurans.....	1
Total .....	58



DISEASED, BRUISED, PUTRID, AND UNMARKETABLE MEAT  
REJECTED AND DESTROYED APART FROM WHOLE CARCASSES.

1905.	Beef, Mutton, Pork and Veal.					lbs.
January	...	...	...	...	...	764
February	...	...	...	...	...	109
March	...	...	...	...	...	185
April	...	...	...	...	...	268
May	...	...	...	...	...	454
June	...	...	...	...	...	211
July	...	...	...	...	...	342
August	...	...	...	...	...	158
September	...	...	...	...	...	98
October	...	...	...	...	...	50
November	...	...	...	...	...	328
December	...	...	...	...	...	490
Total						3,457

FISH, RABBITS, GAME, AND POULTRY, EXAMINED, REJECTED,  
AND DESTROYED.

1905	Fish.					Rabbits	Grouse	Poultry.
	Boxes.	Barrels	Bags	Kits	Lbs			
Totals	130 $\frac{3}{4}$	14	22 $\frac{3}{4}$	11 $\frac{1}{4}$	188	74	25 $\frac{1}{2}$ brace.	20 head.

Also 2 bags of Sheep Feet and 27 tins of Pickled  
Tongues.

NUMBER OF ANIMALS INSPECTED IN PRIVATE  
SLAUGHTER-HOUSES.

Beasts.	Sheep.	Calves.	Pigs.
1559	5,076	277	43

WEIGHT OF REJECTED CARCASSES, ORGANS, MEAT, &c.,  
FORWARDED FOR DESTRUCTION DURING THE YEAR  
FROM THE ABATTOIR TO AUDLEY DESTRUCTOR.

1905.		Tons.		Cwts.		Qrs.
January	}	11	...	4	...	2
February						
March	...	4	...	16	...	1
April	...	5	...	3	...	2
May	...	5	...	16	...	3
June	...	3	...	14	...	3
July	...	4	...	11	...	2
August	...	4	...	11	...	...
September	...	5	...	17	...	...
October	...	5	...	19	...	...
November	...	6	...	3	...	2
December	...	6	...	10	...	...
Totals	...	64		7		3

The above figures do not include the weight of Fish destroyed.

NUMBER OF VISITS.

To Butcher's Shops, etc. ....	1,500
To Private Slaughter-houses .....	1,730
To the Meat Market.....	451
To the Fish Market .....	530
To the Public Abattoir .....	700
To the Railway Station.....	308
Total.....	5,219 visits

## MAGISTERIAL PROCEEDINGS IN CONNECTION WITH THE SEIZURE OF UNSOUND MEAT.

On 9th May, Inspector Almond found a piece of unsound meat exposed for sale in a butcher's shop and seized it. The butcher was brought before the magistrates on May 17th, and fined £3 and costs for exposing unsound meat for sale as human food.

On May 25th, seven unsound haddocks were found exposed for sale in a grocer's shop and seized. On June 2nd the grocer was fined £5 and costs for exposing unsound fish as human food.

On October 31st and November 4th respectively, two diseased carcasses of beef were seized, and afterwards destroyed by order of a Justice. The beef had not been exposed for sale.

On December 30th, Inspector Almond found 12 putrid rabbits exposed for sale on a stall in the market, and seized them. They were afterwards destroyed by the order of a Justice.

On February 2nd, 1906, the owner of the rabbits was fined 40s. and costs for exposing unsound rabbits as human food.

## CASES OF ANTHRAX INSPECTED AT THE ABATTOIR, ETC.

Five cases of Anthrax were dealt with during the year,  
viz. :—

- 1.—January 18th. A cow brought dead from a farm at Wheelton.
- 2.—March 13th. A sheep brought alive from Cumberland to Blackburn.

- 3.—May 17th. A pig brought dead from Withnell.
- 4.—July 31st. A cow brought dead from Balderstone.
5. —December 8th. A sheep brought alive from Cockerham to Blackburn.

The following table shows the cases of Anthrax discovered and reported in Blackburn during the years:—

	1899.	1900.	1901.	1902.	1903.	1904.	1905.
Blackburn cases ...	0	1	1	1	5	1	1*
Outside cases ...	2	4	4	3	3	8	4
(introduced)							
Totals .....	2	5	5	4	8	9	5

\*This case had only been in Blackburn about 5 days.

#### FARM AND DAIRY CATTLE INSPECTION.

During the year 89 farms were visited, 168 cowsheds inspected, and the udders of 1,833 dairy cows examined.

I certified that ten of the cows examined were suffering from tuberculosis of their mammary glands, and the sale of their milk was immediately prohibited by you.

I advised the owners of the ten tuberculous cows to have them slaughtered immediately, but only seven of the cows were slaughtered.

Of the remaining three cows one was sold to a cattle dealer in Halifax; the destination of the other two cows could not be traced.

Of the 462 tuberculous cows slaughtered at the Abattoir 27 only were from cowsheds in the Borough; the others were brought

to the slaughter-houses from Edinburgh, Saltord, Clitheroe, Preston and Blackburn Markets: also from farms in the surrounding districts.

During the year 16 samples of mixed milk and six samples of unmixed milk from cows supplying Blackburn with milk were obtained and forwarded to Professor Delepine for bacteriological examination. The following statement shows the results obtained:—

**Mixed Samples of Milk submitted for Bacteriological Examination.**

Number of Sample	Date of Collection.	Number of Can	Number of Cows	Result of Examination.
1	M'ch. 2, 1905	21	22	Negative found not to cause tuberculosis
2	Ap'l. 19, "		33	Ditto
3	May 11, "	22	12	Ditto
4	" 25, "	20	40	Ditto
5	" 17, "		40	Ditto
6	" 17, "		24	Ditto
7	Sept. 15, "	19	22	Ditto
8	" "	32	33	Ditto
9	" "	16	18	Ditto
10	" "		14	Ditto
11	" "	20		Ditto
12	Dec. 20, "	B38	24	Ditto
13	" "	B39	18	Ditto
14	" "	B37	48	Ditto
15	" "	B40	30	Ditto
16	" "	B36	70	Ditto

Samples 1 and 7 were from cows supplying the Fever Hospital, and free from tubercle bacilli, as were all the others.

UNMIXED SAMPLES OF MILK SUBMITTED FOR  
BACTERIOLOGICAL EXAMINATION.

Number of Sample.	Date of Collection.	Number of Can.	Result of Examination
1	May 4, 1905.	2	Positive.— found to cause Tuberculosis
2	„	39	Ditto
3	May 10, 1905.	33	Negative.— Found not to cause Tuberculosis.
4	July 5, 1905.	5	Ditto
5	„	16	Ditto
6	„	17	Ditto

The cow from which No. 1 sample of unmixed milk was drawn, was immediately slaughtered.

COWSHED INSPECTION.

The circular-letter sent out by you on April 18th to all the cowkeepers in the Borough regarding the lime-washing of cowsheds, has been responded to in a satisfactory manner.

No new cowsheds have been erected during the year, and only small improvements in the lighting, ventilation, etc., of the existing cowsheds have been made.

I am, Sir,

Your Obedient Servant.

JAMES MILLER STIRLING.

M.R.C.V.S., D.V.S.M. (Vict.).

Veterinary and Chief Meat Inspector.



## SALE OF FOOD AND DRUGS ACT.

## MILK.

The largest number of samples purchased in Blackburn during 1905 under the above Act consisted of milk. It is of the greatest importance that the milk should be of as good quality as possible, since it is the main article of diet for young children and invalids.

An important circular-letter was received in March, 1905, from the Board of Agriculture respecting the Sale of Food and Drugs Act, 1899, and adverting to their circular-letter of the 28th December, 1901.

Copies of these two letters are given here, as they are of considerable importance.

## BOARD OF AGRICULTURE AND FISHERIES.

4, Whitehall Place

London, S.W

16th March, 1905.

## SALE OF FOOD AND DRUGS ACT, 1899

(62 and 63 Vict.. c. 51.)

Sir.

I am directed by the Board of Agriculture and Fisheries to advert to their Circular-Letter of the 28th December, 1901, of which a copy is herewith enclosed, and to inform you that they have received numerous representations from dairy farmers and others complaining of the institution of proceedings under the Sale of Food and Drugs Acts, 1875 to 1899, in cases in which, as is alleged, the de-

iciency of milk-fat or milk-solids as compared with the limits laid down in the Sale of Milk Regulations, 1901, was due to accidental causes and not to any fraudulent action on the part of the vendor.

In the Circular-Letter above referred to, the Board suggested that in the absence of any special circumstances indicating the commission of fraud, the Local Authority might in the first instance call the attention of the vendor to the adverse report of the analyst and afford him an opportunity of submitting any explanation he might desire to offer on the subject. The Board further expressed the opinion that if the explanation were one which the Local Authority felt able to accept, they might, in the exercise of their discretion, refrain from the institution of proceedings, or withdraw any summons which it might have been necessary to take out in order to avoid the failure of proceedings, at the same time making arrangements for the taking of further samples of the milk supplied, in order that a satisfactory conclusion as to its character might be arrived at.

The experience of the past three years has confirmed the propriety of the views expressed by the Board on the subject, and they would be glad to learn that your Local Authority have made arrangements to proceed on the lines suggested, and if not, that the matter will be further considered at an early date.

I am also to say that the Board think it very desirable that farmers, dairymen, and all other cowkeepers should have samples of the milk of their cows tested from time to time, so that they may be able to watch the seasonal and other variations in the quantity of milk-fat contained in the milk, and by modifications in the feeding, housing, or time of milking, and if necessary by the disposal of animals giving milk of an exceptionally poor character, keep the quality of their milk at a satisfactory level. The Board have ascertained

that with the object of assisting farmers thus to acquaint themselves with the character of their milk. the various Agricultural Colleges and Agricultural Departments of University Colleges, etc., are willing to determine, for a fee of sixpence, the percentage of milk-fat in any sample of milk which may be sent to them from the Counties with which they are respectively associated. Detailed information as to the arrangements thus made is given in the Journal of the Board of Agriculture for March, 1905. The Board would be glad if your Local Authority would co-operate with them in the matter, and do what is possible to facilitate the testing of milk in the manner proposed.

The Board are satisfied that if the keepers of cows will from time to time test the quality of their milk for themselves, and if the Local Authorities will adopt some such arrangement as that above suggested for hearing what the vendor has to say for himself before taking the case into open Court, any legitimate ground of complaint on the part of producers as to the administration of the law, so far as the adulteration of milk is concerned, will speedily be removed.

I am, Sir,

Your obedient Servant,

T. H. ELLIOTT,

Secretary.

## BOARD OF AGRICULTURE,

4, Whitehall Place,

London. S.W.,

28th December, 1901.

## SALE OF FOOD AND DRUGS ACT, 1899

(62 and 63 Vict., c. 51).

Sir,

I am directed by the Board of Agriculture to bring under the notice of your Local Authority the following observations with reference to the Regulations relating to the Sale of Milk in Great Britain. which, in pursuance of the powers conferred upon the Board by Section 4 of the Sale of Food and Drugs Act, 1899, were made by the Board on the 5th August. and came into operation on the 1st September, 1901.

The Regulations were as follows :—

*Milk.*

1. Where a sample of milk (not being milk sold as skimmed, or separated, or condensed milk) contains less than 3 per cent. of milk-fat, it shall be presumed for the purposes of the Sale of Food and Drugs Acts, 1875 to 1899, until the contrary is proved, that the milk is not genuine, by reason of the abstraction therefrom of milk-fat, or the addition thereto of water.

2. Where a sample of milk (not being milk sold as skimmed, or separated, or condensed milk) contains less than 8.5 per cent. of milk-solids other than milk-fat, it shall be presumed for the purposes of the Sale of Food and Drugs Acts, 1875 to 1899, until the contrary is proved, that the milk is not genuine, by reason of the abstraction therefrom of milk-solids other than milk-fat, or the addition thereto of water.

*Skimmed or Separated Milk.*

3. Where a sample of skimmed or separated milk (not being condensed milk) contains less than 9 per cent. of milk-solids, it shall be presumed for the purposes of the Sale of Food and Drugs Acts, 1875 to 1899, until the contrary is proved, that the milk is not genuine, by reason of the abstraction therefrom of milk-solids other than milk-fat, or the addition thereto of water.

In the Regulations the limits below which a presumption is raised that the milk is not genuine were necessarily fixed at figures lower than those which are usually afforded by genuine milk, in which the proportion of milk-fat and non-fatty solids very frequently exceeds the percentages specified above. It is, therefore, important that Local Authorities should keep steadily in view the possibility of the artificial reduction of the quality of natural milk to the official limits by the abstraction of cream, or the addition of separated milk, or of water, and arrangements should be made for the taking of samples and the submission of the same for analysis whenever the existence of malpractices of the kind is suspected. In this connection, it may be observed that the evidence given before the Milk Regulations Committee (Cd. 491), tended to show that the practice of fraudulently mixing separated milk with new milk has become increasingly prevalent, particularly in some of the larger towns.

Although the quality of genuine milk offered for sale will usually be well above the official limits of milk-fat and non-fatty solids, there may occasionally, and especially in certain seasons of the year, be cases in which a sample of genuine milk may fall below those limits. To meet cases of this kind it is suggested that, in the absence of any special circumstances indicating that the case is a fraudulent one, the Local Authority might, in the first instance, call the vendor's attention to the analyst's report, and ask him



whether he desires to offer any explanation, and if the explanation is one they are able to accept, they might, in the exercise of their discretion, refrain from the institution of proceedings or withdraw any summons which, in order to prevent the failure of proceedings, by reason of the time-limit imposed by the Act, it may have been necessary to take out. But it may be desirable that further samples of milk should be taken in such cases, in order that a satisfactory conclusion as to the character of the milk supplied may be arrived at.

### CREAM.

The Milk Regulations Committee reported that the evidence submitted to them went to shew that it was a common practice to add gelatin to cream for the purpose of giving it a fictitious appearance of richness or thickness. Local Authorities are urged to take steps to ascertain whether this form of adulteration is practised within their districts, and if a public analyst reports the presence of gelatin, or other similar substance, in a sample of cream, the Local Authority concerned should consider whether the case is one in which proceedings might not, with advantage, be instituted under Section 6 of the Sale of Food and Drugs Act, 1875.

### COLLECTION AND RETENTION OF SAMPLES.

It is desirable that, so far as may be found practicable, there should be uniformity of procedure in collecting and retaining samples of milk procured under the provisions of the Sale of Food and Drugs Acts, and the following recommendations have been drawn up for the guidance of the local officials employed in this work:—

- (1) The quantity to be purchased should not be less than one pint, except that it may be expedient to pur-



chase only half-a-pint, in cases where there is reason to believe that the object of the purchase would be defeated if a greater quantity were demanded.

(2) The division of the sample under Section 14 of the Act of 1875, as amended by Section 13 of the Act of 1899, should be made as equally as possible, so that the portion reserved by the purchaser may be not less than one-third of the whole.

(3) The bottle used for each divided part should have a narrow neck, and be of such capacity that the milk may nearly or quite fill it. The shape of bottle known as "Winchester" is strongly recommended, but in any case the bottles should have rounded sides in order to give security to the sample during transit by post or otherwise.

(4) Corks only should be used, and these should always be new and sound, and fitting so tightly as to secure the contents without any aid from the wax which is subsequently used for sealing the sample. It is most desirable that the sealing should be carried out in such a way as to prevent any attempt to remove the cork. It is, therefore, recommended that the cork should be slit down to one-fourth of its length and the string drawn through and securely fastened round the neck, the ends being afterwards carried to the top of the cork and sealed thereon.

(5) Special attention should be given that the reserved portion of milk be kept in as equable and cool a temperature as possible, pending its production in Court in instances where proceedings are taken; and, if directed by the Justices to be referred to the Government Laboratory, it should be carefully packed so as to secure its safe transmission.

The Board would be obliged if you would take steps to bring this Circular under the notice of your Local Authority, and they will be glad to forward you additional copies for distribution amongst the members of your Local Authority and the officers concerned, upon being informed of the number you require.

I am, Sir,

Your obedient Servant,

T. H. ELLIOTT,

Secretary.

Dr. Armstrong, the Medical Officer of Health for Newcastle-upon-Tyne, has prepared a report to his Sanitary Committee on the above two Circular-Letters, in which he comments upon the various points so explicitly that I have given his Report in full.

His Report is as follows :—

#### SUMMARY.

1. Examination of Board of Agriculture's proposal to Local Authorities as to vendor's explanation of his low-standard milk.
2. Difficulty of carrying out recommendation of Board of Agriculture as to taking of successive samples. Effect of this recommendation on the Bench and on the Farmer.
3. Explanation as to reason of poor quality of his milk by Farmer (whether guilty or innocent), unreliable and unsatisfactory. "Appeal to the cow" an unfair tax on the ratepayer.

4. Farmer's explanation best made to Magistrates.
5. Farmer's proper responsibility and power of self-protection.
6. Board of Agriculture's recommendation to let farmer *explain* to Sanitary Authority is an innovation and contrary to invariable rule with other tradesmen.
7. Farmer's *duty* the same as that of other tradesmen.
8. Board of Agriculture's recommendation with respect to milk testing and examination, and probable results of attempt to carry it into effect.
9. Method of milk testing suggested by Board of Agriculture not likely to be fairly tried by farmer. Farmer should test for himself.
10. Milk standard already fixed so low as to be easily attainable, hence farmer has no claim for special privilege.
11. Low milk standard benefits only a few low-class farmers, whilst it injures all others, as well as all consumers.
12. Criticism of present low milk standard.
13. The duty of Sanitary Authorities is to protect the helpless consumer, not the producer, who has ample lawful means and methods of promoting his own interests.
14. Higher milk standard desirable. Every person *found selling* milk below fixed standard should be prosecuted.

1. "The Board . . . have received numerous representations from dairy farmers and others complaining, etc., etc., . . . in the absence of any special circum-

stances indicating the commission of fraud, the Local Authority might, in the first instance, call the attention of the vendor to the adverse report of the analyst, and afford him an opportunity of submitting any explanation he might desire to offer on the subject."

The latter paragraph of the above quotation consists of two parts, viz:—

(1) "The absence of any special circumstances indicating the commission of fraud."

(2) The Local Authority to "call the attention of the vendor . . . and afford him an opportunity of submitting any explanation, etc."

With respect to the first of these parts, it may be observed that this point can only be determined after hearing the evidence on both sides. The vendor's disclaimer of fraud is not proof of his innocence, and his admission of guilt is not to be expected.

The circumstances bearing on the quality of a given milk supply are so complex, and the opportunities of plausible excuse for its poorness so many and varied, as, in most cases, to deprive a Local Authority of the means of determining the truth or falsity of any explanation offered.

As regards the second part of the paragraph, the attention of the vendor will be called to the circumstance by the summons, after the service of which, and before the hearing of the case in Court, he may submit his explanation to the Local Authority. The Local Authority of Newcastle, whilst not *inviting*, has received, and has never refused to receive and consider such explanation when offered voluntarily.

Respecting decision on such explanations, the Local Authority being the prosecutor, is not precisely in the position of a Grand Jury, yet even the latter body decides on the *prima facie* case

of the prosecution without hearing the defence. For the Local Authority to go further and constitute itself a preliminary tribunal to *invite*, inquire into, and in a certain sense, adjudicate upon, an explanation, parts of which may afterwards be used against a defendant in Court, is wrong in principle.

Moreover, inasmuch as by far the largest majority of milk vendors are merely retailers without any knowledge of the circumstances which might be considered to exculpate the producer of a milk below standard, any invitation of the kind to them would be altogether out of place.

2. " . . . if the explanation were one which the Local Authority felt able to accept, they might, in the exercise of their discretion, refrain from the institution of proceedings, or withdraw any summons which it might have been necessary to take out in order to avoid the failure of proceedings, at the same time making arrangements for the taking of further samples of the milk supplied, in order that a satisfactory conclusion as to its character might be arrived at."

One objection to the foregoing proposal is the difficulty (often great) of finding a particular retail vendor of milk from whom to take further samples on several successive occasions within a reasonable time after the first sample was obtained. Another objection is that it leads the Court to be disinclined to convict, except on evidence of repeated and persistent adulteration. The consequence is that it acts as a direct incentive to the fraudulent dealer (whether producer or merchant), who feels that he may adulterate with impunity until a first sample is taken by the Authority for analysis. This is his warning, and he then ceases to adulterate, so that the succeeding samples afford no ground for a conviction.

3. In attempting to show why their milk was below standard, the same explanation would be given by the fraudulent as by the ingenuous producer, and the Sanitary Authority would be unable to distinguish the one from the other. Hence the Board's recommendation would shield both alike, and go a long



way towards nullifying the protection to the public which is the primary object of the Food and Drugs Acts. If to this objection the Board urge that in every such instance there should be an "appeal to the cow," the cost of such appeals in the producers' interest would be a heavy and unfair tax on the ratepayers, and out of proportion to the benefit they would receive from it.

4. Any explanation the farmer might have to offer would, both for his own and the consumers' sake, be better made publicly in Court than privately before a Committee.

5. The milk vendor, whether farmer or retailer, is as responsible as any other tradesman for the quality of the article he sells. If he has his milk periodically analysed on his own account, he needs no Inspector to tell him when it is falling below standard. Therefore, in the absence of such periodical analyses, no defence should be accepted either by Sanitary Authority or Justices.

6. The recommendation of the Board of Agriculture is an innovation. All producers of goods, other than milk, have to protect their own interests. The Board proposes to protect those of the milk producer only.

7. It is the farmer's *duty* to keep himself right with the law and the public. It is not the Authority's duty to do this for him. There is no reason why the farmer in this respect should be placed on a different footing from other tradesmen.

8. After indicating that the various Agricultural Colleges and Agricultural Departments of University Colleges, etc., are willing, for a fee of sixpence, to determine the percentage of milk-fat in any sample of milk sent to them, the circular of the Board of Agriculture goes on to state that the Board would be glad if the

"Local Authority would co-operate with them in the matter, and do what is possible to facilitate the testing of milk in the manner proposed."



The intention of this last quoted paragraph is not clear. It appears to suggest that the Local Authority should communicate with each dairy farmer and cowkeeper supplying milk to their district, and urge him to act on this recommendation of the Board of Agriculture. In the case of a district such as that of Newcastle, owing to the multiplicity of dairy farmers, the frequent variations in their number and constituency, and the immense distances from which many of them send their produce to the city, there can be no accurate register of these tradesmen. Even if obtainable, such a record, though perhaps fairly reliable to-day, would not be so to-morrow.

If the foregoing be the correct interpretation of the paragraph above quoted and what it involves, the carrying out of the Board's suggestion will be exceedingly difficult, if not well nigh impossible. Furthermore, for the Local Authority to circularise each milk producer of the surrounding counties in the hope of reaching all the suppliers of its particular district, would, on the one hand, mean, in the majority of instances, communication with many persons not concerned, and, on the other, would flood the farmers with notices from all Local Authorities within a hundred or two hundred miles of their respective dairies! Such an idea is therefore obviously out of the question.

9. The recommendation that the farmer's milk should be frequently tested is, in itself, good, but the method suggested—apart from any other objections—is insufficient to attain its object. It is not likely that a farmer will send samples of his milk to a distant laboratory for analysis every week. To expect him to do so *every day*—and such examinations ought to be made daily—would be absurd. On the other hand, by the purchase of a Milk Tester costing a guinea, he may easily and rapidly determine for himself the amount of butter-fat whenever he chooses.

The surest way to cause Dairy Farmers and Cowkeepers to test their produce frequently and carefully, is to prosecute in every case where the milk is found to be below standard.

10. In considering the general question, it is to be borne in mind that the limits fixed by the Sale of Milk Regulations are low, very much below the figures for average milk, and that several members of the Milk and Cream Committee were in favour of fixing higher limits. A farmer who is careful as to the breed and feeding of his cows, the intervals between successive milkings, and the regular testing of his milk, may easily keep his supply not only up to, but above, the standard.

11. A low milk-standard benefits (at the expense of their customers) a few producers only, the inferior class of whose stock or whose method of conducting business disentitle them to such special consideration. On the other hand, it hurts the main body of milk producers whose superior article brings them no higher price than is commanded by poorer stuff.

Further, it is a direct suggestion which may be acted on to the detriment of consumers, that good milk can, without risk to the dairyman, be reduced in quality.

12. That there must be a milk standard is a matter of course ; but to fix it at barely above the poorest average quality known is — except for the serious loss it entails on the consumer — ridiculous.

13. It is for Sanitary Authorities to protect the helpless consumer of milk rather than the resourceful producer, who may (if so disposed), keep cows of a class to produce milk naturally below standard, feed them on brewers' grains, or give them an undue amount of water to drink, and thereby actually dilute the milk before it leaves their bodies ; or even add skim milk to it, and thus reduce its quality after yield ; and by any or all of these processes, without breach of law or fear of penalty therefor, make as much unfair profit as the illegal adulterator.

14. If, instead of the complicated and unusual course recommended by the Board of Agriculture, a somewhat higher milk standard were adopted and strictly adhered to, and if every person

found selling milk below it were prosecuted, leaving him (in case of his being merely a middleman or retailer) to seek his own remedy against the producer who had supplied him, then the interests of milk consumers would be more thoroughly protected, the difficulties of administering the law with respect to adulteration would be greatly reduced, and justice against offenders would be more readily secured.

HENRY E. ARMSTRONG.

Medical Officer of Health.

Health Department.

Town Hall, Newcastle-upon-Tyne.

4th August, 1905.

The foregoing Report was considered, approved, and adopted by the Sanitary Committee of the Corporation of Newcastle-upon-Tyne, on 21st August, 1905.

The Board of Agriculture recommend that the number of samples taken annually should be not less than 3 per 1,000 of the population, and that one-half these samples should be milk, one-quarter butter, and one-quarter other articles.

Unofficial samples are also sent from Blackburn for analysis by the Public Analyst, *i.e.*, samples are purchased, but not divided into three portions. If, on analysis, these are found adulterated, second samples are taken according to the Act.

Two hundred and fifty-one samples were taken during the year, and sent to the Public Analyst.

These samples included 112 of milk and 38 of butter.

The remaining samples represented food-stuffs in everyday use.

Only four prosecutions were necessary, on account of deficiency of fat in milk. Caution letters were sent to eight other milk vendors.

*The Sale of Butter Bill* was a short Government measure, introduced before Parliament in 1905 by the President of the Board of Agriculture and Fisheries, which had to be withdrawn at the close of the session. Its object was the restriction of the amount of water permissible in butter, and the provision of facilities for the inspection of butter manufactories by officers of the Board of Agriculture.

Another proposal which had to be dropped at the close of the session before it could be considered was the *Sale of Whisky Bill*, which sought to secure the differentiation of whisky distilled in a "pot still" from spirit distilled in a "patent still"

## REPORT OF INSPECTOR OF NUISANCES.

Public Health Office,

51, Ainsworth Street,

Blackburn.

To the Medical Officer of Health.

Dear Sir,

I beg to submit to you the following Report of the Sanitary work carried out during the year 1905:—

## INHABITED VANS.

These dwellings have chiefly visited Wrangling. Occasional visits were paid to the open space off Accrington Road. The gipsy tribe have again been absent, and, therefore, no annoyance was caused. The vans and shows on the Market Place were all inspected, and kept under observation during Easter Week, and no infectious diseases were detected. The dwellings and surroundings were kept in a very clean state.

## CANAL BOATS ACTS, 1887 and 1884.

In compliance with the Acts and Regulations, 190 Canal Boats have been inspected, as compared with 223 in 1904.

Twelve infringements of these Acts have come under notice, namely :—

- Two boats dirty from want of cleaning.
- Six masters without Certificates.
- Three boats in want of painting.
- One boat in a leaky condition.

The cleanliness of the boats has again been well maintained, and only two masters required a caution.

Two notices have been served on the owners requiring boats to be repaired, and in both cases Certificates have been received. The six masters without Certificates on board, had misplaced them or left them at home, and in each case they were cautioned.

No infectious disease was met with, and therefore no detention of boats for cleansing and disinfection was required.

There are 96 boats on the Register. Two boats have been registered, and two re-registered through change of owners.

In the 190 boats there were met with 329 males, 86 females, and 50 children.

Thirty-eight of the children were under school age. Twelve were above school age, and were on a holiday trip.



Table LXXXVI.—INSPECTION OF FOOD AND DRUGS.

Articles Analysed.	Number Analysed.	Result of Analysis.			Extent of Adulteration.	Result of Proceedings.
		Genuine	Adulterated	Doubtful		
Milk .....	112	100	4	8	8 $\frac{2}{3}$ % deficient in cream	Cautioned
					24 % "	Summoned and fined 40s. and costs
					11 % " and 10 % of water	Summoned and fined £3 and costs.
					22 $\frac{1}{2}$ % deficient in cream	Summoned and fined 40s. and costs
					13 % "	Summoned and fined 40s. and costs
					3 $\frac{1}{3}$ % "	Cautioned
					6 % "	Cautioned
					6 % added water	Cautioned
					8 % deficient in cream	Cautioned
					3 $\frac{1}{3}$ % " Slightly deficient Boracic Acid	Cautioned
					Preservative	Cautioned
Butter .....	38	38	..	..		
Lard .....	25	25	..	..		
Pepper .....	22	21	1	..	10 % of black pepper husks	
Coffee .....	17	17	..	..		
Ale & Beer	10	10	..	..		
Baking Powder	7	7	..	..		
Margarine	6	5	1	..	Sold under fancy name	Proceedings Pending.
Ground Ginger	6	5	1	..	3.9 % of calcium sulphate and 2 % of sand	
Jam .....	3	3	..	..		
Arrowroot.	2	2	..	..		
Sugar .....	1	1	..	..		
Cream of Tartar	1	1	..	..		
Cocoa Mixture	1	1	..	..		
Total...	251	236	7	8		



## COMMON LODGING-HOUSES.

Two new houses have been registered, namely :—24. Bradshaw Street, and 6 and 8, Mount Pleasant.

The present number on the register is 19. compared with 22 in 1904, accommodating 797 adults and 25 children.

Six hundred and ninety-nine visits have been paid to these houses during the year. Cleanliness and good order have been well maintained, and only one case of Infectious Disease, *viz.*, Diphtheria, was reported during the year.

The following is a list of the Common Lodging-Houses in the Borough:—

<i>Situation of Premises.</i>	<i>No. of Rooms.</i>	<i>No. Registered for.</i>
26 and 28 Penny Street .....	10	33 adults and 9 children
59 Water Street .....	5	25 „ „ 2 children
30 and 32 Leyland Street.....	4	20 „ „
54 and 56 Syke Street .....	8	37 „ „
66 Moor Street .....	20	93 „ „ 6 children
104 Mary Ann Street .....	5	37 „ „ 1 child
9 Cannon Street .....	6	20 „ „
7 Albion Yard .....	3	16 „ „
56 Chapel Street .....	7	37 „ „
26 Blakey Moor .....	2	7 „ „
28 „ „ .....	3	15 „ „ 1 child
33 Larkhill Street .....	3	16 „ „
19 „ „ .....	38	260 „ „
13 Grimshaw Park .....	3	18 „ „ 2 children
86 to 92 Chapel Street .....	7	35 „ „ 1 child
74 and 76 „ .....	5	36 „ „
83 Moor Street .....	3	11 „ „
26 Bradshaw Street.....	3	18 „ „
6 and 8 Mount Pleasant.....	8	65 „ „

## HOUSES LET IN LODGINGS.

There are 50 of these houses on the register, compared with 46 last year; 1,143 visits have been paid to them during the year. They have been kept in a clean condition, and have been almost free from any infectious disease, only one case (diphtheria) having been reported during the year.

Three hundred and twenty-seven complaints were received from the public. Formal and informal complaints of alleged nuisances have been received. These have been regularly investigated, and the necessary action taken for their abatement.

#### EXAMINATION OF DRAINS.

Drains tested with smoke .....	509
„ „ „ water .....	298
Examination of drains .....	269
Tracing for leakage .....	32

#### SMOKE OBSERVATIONS OF FACTORIES.

One hundred and fifty-seven observations were taken, of which 23 exceeded the limit allowed. Sixteen notices to abate the nuisance caused by the emission of black smoke were served and 6 prosecutions were instituted.

The following is a table showing the results obtained, and the action taken:—

TABLE LXXXVII.—SMOKE OBSERVATIONS.

Name of Mill.	Result of Observation			No. of Boilers.	If Stokers	Action taken.
	B.	F.	N.			
Royshaw Quarry .....	11½	35½	13	1	No	Notice
Brickworks (St James' Road) .....	...	60	...	1	No	
Springfield Mill 1.....	16	38	6	8	Yes	Notice
„ „ 2.....	13½	32½	14	...	...	Notice
Greenbank Destructor .....	...	42	18	...	..	
Imperial Mill 1 .....	10½	34	15½	4	No	Notice
„ 2 .....	2½	35	22½	...	...	
Gorse Bridge .....	...	31½	28½	1	No	
Quarry Street.....	7	33	20	2	No	Notice
Eanam Brewery .....	...	24	36	3	No	
Blackburn Brewery Co .....	...	38	22	1	No	
Larkhill Reed Works.. ..	...	22	38	1	No	
Moss Street Mill 1.....	17½	28	14½	2	No	Notice
„ 2.....	14	16	30	...	...	Summoned
Bright Street Mill 1 ..	9½	27½	23	1	...	Notice
„ 2 ...	6	22½	31½	...	...	Summoned
Greenbank Foundry 1	1	52	7	2	No	
„ 2 .....	...	23	37	...	.	
Limbrick Mill .....	1	27	32	1	...	
Bold St. Reed Works	1	25	34	1	No	
Yates & Thom 1.....	...	31	29	2	No	
„ 2.....	...	37	23	...	.	
Eanam & Quarry Street Mills .....	1½	26½	32	3	...	
Ward Street .....	7	28	25	2	1 yes 1 no	Notice
Brookhouse Field Mill	7	43	10	...	...	
Brookhouse Mills .....	...	22	38	7	6 yes 1 no	
Oozelbooth Mill.....	4½	19½	36	1	No	
Royshaw Mill.....	5	18	37	1	No	
Baldwin 1 .....	1	30	29	1	No	
„ 2 .....	...	17	43	...	..	
„ 3 .....	2	10	48	...	...	
Gladstone Mill 1 .....	1	13	46	1	No	
„ 2 .....	...	28	32	...	...	
Canterbury Dye Works 1	3	11½	45½	1	Yes	
„ „ 2	21	18	14	...	...	Notice
„ „ 3	34	13	13	...	..	Summoned

## SMOKE OBSERVATIONS - continued.

Name of Mill.	Result of Observation			No. of Boilers.	If Stokers.	Action taken.
	B.	F.	N.			
Canterbury Mill 1.....	2	16	42	2	No	
„ 2 ....	..	15	45	...	...	
„ 3.....	...	5	55	...	...	
Rockcliffe Mill .....	3	13 $\frac{1}{2}$	43 $\frac{1}{2}$	1	No	
Nova Scotia Mill ...	4	9 $\frac{1}{2}$	46 $\frac{1}{2}$	2	No	
Bolt Works .....	...	21	39	1	No	
Wellington 1 .....	...	24 $\frac{1}{2}$	35 $\frac{1}{2}$	3	No	
„ 2 .....	...	18	42	...	...	
Albert Mill 1 .....	...	10	50	2	No	
„ 2 .....	...	7	53	...	...	
Highfield Mill 1 .....	3 $\frac{1}{2}$	17 $\frac{1}{2}$	39	2	No	
„ 2 .....	1	13	46	...	...	
Brunswick Mill .....	...	14	46	1	No	
Unity 1 .....	...	15 $\frac{1}{2}$	44 $\frac{1}{2}$	1	No	
„ 2 ... ..	...	13	47	...	...	
Holden's Brewery 1 ...	..	14 $\frac{1}{2}$	45 $\frac{1}{2}$	1	Yes	
„ 2 ... ..	...	29	31	...	...	
Infirmary Mill 1.....	$\frac{1}{2}$	11 $\frac{1}{2}$	48	1	Yes	
„ 2 .....	...	9	51	...	...	
Atlantic .....	...	11	49	1	No	
Adley, Tolkein 1 ...	7 $\frac{1}{2}$	24 $\frac{1}{2}$	28	1	No	Notice
„ 2 ... ..	...	8	52	...	...	
Cardwell Mill .....	5	8	47	1	No	Notice
Victoria Mill .....	...	12	48	1	No	
Park Bridge Mill ...	...	40	20	2	Yes	
Shakespeare Mill 1 ...	7	29 $\frac{1}{2}$	23 $\frac{1}{2}$	2	No	Notice
„ 2 ... 16 $\frac{1}{2}$	41	2 $\frac{1}{2}$	...	...	...	
Bank Top Mill 1 .....	$\frac{1}{2}$	46 $\frac{1}{2}$	13	1	Yes	
„ 2 ... ..	...	44	16	...	...	
Havelock Mill .....	10	43	7	2	No	Notice
Cardwell Mill 1.....	1	44	15	1	No	
„ 2... ..	$\frac{1}{2}$	45	14	...	...	
Greaves Street Mill .....	...	43	17	1	No	
Mary St. Slay Works..	$\frac{1}{2}$	20 $\frac{1}{2}$	39	1	No	
Wensley Fold Mill ...	1	44	15	...	...	
Lancaster Street Mill...	...	42	18	1	No	
Lower Hollin Bank						
Street Mill 1	2 $\frac{1}{2}$	33 $\frac{1}{2}$	24	2	No	
„ „ 2 ...	...	33	27	...	...	
„ „ 3	2 $\frac{1}{2}$	36 $\frac{1}{2}$	21	...	...	

## SMOKE OBSERVATIONS—continued.

Name of Mill.	Result of Observation			No. of Boilers	If Stokers.	Action taken.
	B.	F.	N.			
Albion Mill 1.....	2	37	21	2	No	
„ 2.....	12	26	22	...	...	Notice
„ 3.....	11	21	28	...	...	Summoned
Bridge Mill 1.....	2½	28½	29	1	No	
„ 2.....	6½	32½	21	...	...	Notice
„ 3.....	10	18	32	...	...	Summoned
Moorgate Mill 1.....	4	42½	13½	2	No	
„ 2.....	½	36½	23	...	...	
Hollin Bank Mill.....	...	10	50	1	No	
Albert Mill 1.....	1	12	47	1	Yes	
„ 2.....	...	56	4	...	...	
„ 3.....	...	17	43	...	...	
„ 4.....	...	38	22	...	...	
Cronshaw's, Pump St. ..	...	29	31	1	No	
Duckworth Field Mill 1	½	43½	14	1	Yes	
„ „ 2	12	48	...	...	...	Notice
„ „ 3	12	37	11	...	...	Summoned
George Street West...	3	24	33	1	No	
India Mill 1.....	1½	10½	48	2	No	
„ 2.....	2	12	46	...	...	
Greenbank.....	5	14	41	2	No	
Willan & Mills.....	2	12	46	1	No	
Rosehill.....	4	24	32	2	No	
Higher Audley Street 1	3	14	43	3	No	
„ „ 2	2	16	42	...	...	
Bankfield Mill 1.....	3½	12½	44	3	No	
„ 2.....	3½	12½	44	...	...	
Ordnance Mill 1.....	2½	11½	46	3	No	
„ 2.....	4	10	46	...	...	
Cicely Bridge Mill 1.	3½	14½	42	3	No	
„ 2 ..	2½	19	38½	...	...	
Alma Mill 1.....	3½	14½	42	1	No	
„ 2.....	3½	18½	38	...	...	
Victoria Brewery.....	...	11	49	1	No	
Shakespeare Mill.....	2	29	29	2	No	
Phoenix Foundry.....	2½	15½	42	1	No	
Brickworks, Audley Range	2½	12½	45	1	No	
Commercial Mill.....	1	13	46	1	No	
Marshall & Dent .....	...	12	48	1	No	
Northgate Rope W'orks...	...	7½	52½	1	Yes	

## SMOKE OBSERVATIONS—continued.

Name of Mill.	Result of Observation			No. of Boilers	If Stokers.	Action taken.
	B.	F.	N.			
Wharf Street 1 .....	2 $\frac{1}{2}$	17 $\frac{1}{2}$	40	1	No	
„ 2 .....	3 $\frac{1}{2}$	18 $\frac{1}{2}$	38	...	...	
Rosehill Laundry .....	1 $\frac{1}{2}$	7 $\frac{1}{2}$	51	1	No	
Albert Mill Co. 1 .....	1 $\frac{1}{2}$	15 $\frac{1}{2}$	43	2	No	
„ 2 .....	4	21	35	...	...	
Dewhurst Street 1.....	4	16	40	1	No	
„ „ 2.....	7 $\frac{1}{2}$	22 $\frac{1}{2}$	30	...	...	Notice
„ „ 3 .....	1 $\frac{1}{2}$	12 $\frac{1}{2}$	46	...	...	
Chemical Works .....	2 $\frac{1}{2}$	12 $\frac{1}{2}$	45	1	No	
Furthergate 1 .....	1 $\frac{1}{2}$	16 $\frac{1}{2}$	42	3	No	
„ 2 .....	1 $\frac{1}{2}$	10 $\frac{1}{2}$	48	...	...	
„ 3 .....	2	12	46	...	...	
Paradise 1 .....	3 $\frac{1}{2}$	18 $\frac{1}{2}$	38	4	Yes	
„ 2 .....	4 $\frac{1}{2}$	16 $\frac{1}{2}$	39	...	...	
Jubilee.....	3	13	44	1	No	
Greenlow 1.....	3 $\frac{1}{2}$	12 $\frac{1}{2}$	44	1	No	
„ 2 .....	3 $\frac{1}{2}$	14 $\frac{1}{2}$	42	...	...	
Holehouse 1 .....	3 $\frac{1}{2}$	14 $\frac{1}{2}$	42	1	No	
„ 2 .....	2	10	48	...	...	
Alexandra 1 .....	3	14	43	1	Yes	
„ 2 .....	3	12	45	...	...	
Audley Range 1.....	3 $\frac{1}{2}$	12 $\frac{1}{2}$	44	1	No	
„ 2... ..	3 $\frac{1}{2}$	15 $\frac{1}{2}$	41	...	...	
„ 3.....	3 $\frac{1}{2}$	12 $\frac{1}{2}$	44	...	...	
Audley Hall .....	3	12	45	2	No	
Audley Bridge 1 .....	3 $\frac{1}{2}$	14 $\frac{1}{2}$	42	1	No	
„ 2 .....	3	15	42	..	...	
„ 3 .....	3 $\frac{1}{2}$	21 $\frac{1}{2}$	35	...	...	
Billinge Street Works	2	16	42	1	No	
Lambeth Rope Works	1 $\frac{1}{2}$	13 $\frac{1}{2}$	45	1	No	
Canton .....	3 $\frac{1}{2}$	13 $\frac{1}{2}$	43	2	No	
Prospect.....		13	44	1	No	



## SMOKE OBSERVATIONS—continued.

Name of Mill.	Result of Observation			No. of Boilers.	If Stokers.	Action taken.
	B.	F.	N.			
Shaw's Brewery .....	...	17	43	1	Yes	
Salford Corn Mill.....	...	12	48	1	No	
Chadwick Street .....	1	15½	43½	1	Yes	
Pump Street 1 .....	4	37	19	1	No	
„ 2 .....	4	29½	26½	...	...	
Turner Street ....	1	20	39	1	No	
Garden Street 1.....	10	38	12	1	Yes	Notice
„ 2.....	4	33	23	...	..	
Hollin Bank 1 .....	23	22	15	...	.	Notice
„ 2 .....	9½	15½	35	...	...	Stokers put in after summoned
Stakes Hall Tripe Works...	32	28		1	No	

## DISINFECTION.

One thousand six hundred and fifty-three houses have been disinfected after cases of infectious diseases. The furniture, walls, ceilings, and floors of 1,682 rooms were washed down with chloros, and 273 rooms fumigated with formalin vapour.

Thirty-four classrooms at four schools were sprayed with a solution of chloros.

Three thousand four hundred and thirty-one visits to infected houses were made for the purpose of supplying disinfectants, and 396 pails containing infected matter from typhoid patients isolated at home, were collected and their contents burnt at the destructor.

The following articles have been disinfected by steam:—

2,492 beds.	2,177 sheets.
2,677 mattresses.	4,009 suits of clothes.
2,111 bolsters.	1,364 carpets.
3,193 pillows.	482 rugs.
3,309 quilts.	2,125 curtains.
3,236 blankets.	11,008 sundries.

The following articles have been removed to the destructor and destroyed by consent of the owners:—

Ninety-five mattresses, 23 beds, 32 suits, 4 carpets, 2 rugs, and 16 sundries.

TABLE LXXXVIII.

## DESCRIPTION OF VISITS.

District—	1	2	3	4	TOTAL.
Visits to Common Lodging Houses .....	94	133	88	384	699
Houses let in Lodgings ...	212	261	176	494	1143
Common Yards, Back Roads and Passages ...	4369	1030	1384	2548	9331
<i>Re</i> Infectious Diseases ...	1892	1786	1395	778	5851
Work in Progress .....	1787	1110	903	542	4342
Dwelling-houses inspected	1860	1636	1314	1717	6527
Horse-Manure Middens	713	114	159	257	1243
Miscellaneous Visits .....	63	104	107	96	370
Investigation of Nuisances	105	134	77	63	379
<i>Re</i> contacts with S.P. ...	39	19	49	32	139
Smoke Observations ...	51	29	40	37	157
School Inspection .....	...	...	51	...	51
<i>Re</i> Feeding of Infants ...	462	411	398	407	1678
<i>Re</i> Deaths from diarrhoea	22	23	23	23	91

Large numbers of visits were made with reference to the investigation as to underfed school children in the borough.

TABLE LXXXIX.

DESCRIPTION OF NOTICES ISSUED AND NUISANCES  
REMEDIED.

District—	1	2	3	4	Total
Preliminary Notices served .....	267	527	187	196	1177
Legal „ „ .....	37	55	33	53	178
Nuisances remedied from—					
Defective Drains .....	83	74	66	89	312
Choked „ .....	48	31	31	27	137
Defective Water Closets .....	33	6	3	32	74
„ Pail „ .....	44	..	..	9	53
„ Slop Water Closets .....	24	4	3	3	34
„ Trap Gullies.....	64	38	36	40	178
„ Sink Waste Pipes .....	153	45	37	27	262
„ W.C. Cisterns and Flushing Fittings .....	84	35	5	27	151
„ Urinals .....	4	..	..	4	8
„ Easing Troughs and Spouts ...	133	39	27	35	234
„ Soil Pipes.....	14	8	8	8	38
„ Dishstones re-set.....	69	41	37	39	186
Improper Drainage of Houses .....	..	2	..	..	2
Sink Pipes, &c., connected to the Drains ....	3	..	..	..	3
Yards unflagged .....	59	..	146	73	278
Cellars „ .....	..	..	1	..	1
Yards badly paved or flagged .....	173	35	85	64	357
Houses overcrowded ..	2	2	1	..	5
Houses, Yards, Closets, and Cellar Areas in a filthy state .....	38	13	6	59	116
Damp and defective house walls, roofs, &c. ...	64	4	10	26	104
Insufficient Ventilation of Rooms .....	17	..	..	20	37
Defective Manure Middensteads.....	..	..	1	..	1
Accumulation of Manure .....	733	109	84	199	1125
„ Offensive Matter .....	6	8	6	4	24
Dwelling-houses whitewashed.....	226	8	86	110	430
Poultry, &c., and Erections in Yards removed	17	1	9	25	52
Low chimneys raised .....	5	..	..	..	5
Ash Tubs provided or repaired .....	104	7	49	29	189
Ash Pits and Pail Receptacles repaired .....	25	11	7	..	43
Street Gullies, Ashpits, etc., reported to Scav- enging Department .....	345	37	4	..	386
Dangerous Buildings.....	..	..	5	..	5

WORK VISITED AND ORDERED BY THE HEALTH  
SUB-COMMITTEE.

Conversion of privies .....	542
Houses closed as unfit for human habitation .....	8
Houses altered or closed .....	30
Conversion of pail closets .....	30
Unpaved and badly-paved yards .....	323
Unpaved back roads .....	8
Erections in yards .....	7
Improper flushing apparatus to tippler closets .....	12
Insanitary urinals .....	2
Improper horse middens .....	3
Insanitary stables .....	1
Insufficient closet accommodation .....	14
Demolition of houses .....	3

The Magisterial proceedings, with the exception of those taken under the Food and Drugs Acts, were as follows:—

Seven persons were summoned and fined under Section 91 of the Public Health Act for the emission of black smoke—

Two were fined 40s. and costs.

Five were ordered to pay costs and abate within a month.

One person was summoned and ordered to pay costs for exposing her child, who was suffering from an infectious disease.

Two persons were summoned, and fined 40s. and 20s. and costs, for keeping unregistered Common Lodging-Houses.

I am, Sir,

Yours obediently,

JAMES GRAHAM. Cert. R.S.I.

TABLE XC.

Population and Death-Rates of the various Sub-Districts and constituent Enumeration Districts (as extended in 1901) for the year 1905:—

<i>NORTHERN.</i>			
<i>Enumeration</i>		<i>Population at</i>	<i>Death-rate</i>
<i>District.</i>		<i>1901 Census.</i>	<i>for 1905.</i>
No. 1	.....	1011	14.8
2	.....	1020	6.8
3	.....	583	24.0
4	.....	1322	12.1
5	.....	1191	10.9
6	.....	872	13.7
7	.....	729	13.7
8	.....	1131	16.8
9	.....	565	8.8
10	.....	869	18.4
11	.....	1205	22.3
12	.....	1148	13.0
13	.....	929	12.9
14	.....	1166	24.8
15	.....	1049	12.3
16	.....	1227	13.8
17	.....	1076	19.5
18	.....	741	23.4
19	.....	847	22.4
20	.....	1011	4.9
21	.....	907	11.0
22	.....	1152	8.6
23	.....	1011	12.8
24	.....	967	12.4
25	.....	1126	21.3
26	.....	1146	17.4
27	.....	839	20.2
28	.....	1414	21.2
29	.....	995	28.0
30	.....	1133	29.1
31	.....	1227	28.5
32	.....	1098	15.4
33	.....	620	14.5



<i>Enumeration District.</i>	<i>Population at 1901 Census.</i>	<i>Death-rate for 1905.</i>
34 .....	873	11.4
35 .....	1051	11.4
36 .....	859	26.7
37 .....	936	12.8
38 .....	1177	26.3
39 .....	908	8.8
40 .....	1223	12.2
41 .....	1055	18.0
42 .....	793	12.6
43 .....	474	14.7
44 .....	1019	20.6
45 .....	1240	17.7
46 .....	859	12.8
47 .....	1024	15.6
48 .....	1278	15.6
49 .....	1592	25.7
50 .....	946	13.7
51 .....	946	11.6
52 .....	1306	22.2
53 .....	1436	16.7
54 .....	1322	22.6
55 .....	1098	30.9
56 .....	1191	11.7
57 .....	1343	13.4
58 .....	1283	14.0
59 .....	1009	7.9
60 .....	1004	9.9

## SOUTHERN.

<i>Enumeration District.</i>	<i>Population at 1901 Census.</i>	<i>Death-rate for 1905.</i>
No. *1 .....	636	42.4

\* The large Common Lodging-House in Larkhill Street is situated in this District. and has accommodation for about 260 lodgers. During the year 13 deaths occurred belonging to this Lodging-House. and this accounts for the high death-rate in this District.

<i>Enumeration District.</i>	<i>Population at 1901 Census.</i>	<i>Death-rate for 1905.</i>
2	584	30.5
3	631	14.2
4	1028	26.2
5	743	14.8
6	597	11.7
7	399	12.5
8	755	31.7
9	557	26.9
10	816	18.3
11	1137	12.3
12	1213	18.1
13	870	14.9
14	1072	22.3
15	720	12.5
16	799	20.0
17	1454	20.6
18	1215	18.9
19	1317	9.1
20	611	18.0
21	1438	18.7
22	1016	16.7
23	1346	23.7
24	1294	12.3
25	2369	12.6
26	775	24.5
†27	1118	16.1
28	955	21.9
29	923	8.6
30	1299	15.4
31	615	27.6
32	690	17.4
33	655	15.8
34	909	17.6
35	1129	11.5

† The Union Workhouse is situated in this District, and during the year 20 deaths occurred of persons whose address previous to admission could not be ascertained.

*Enumeration**Population at**Death-rate*

<i>District.</i>	<i>1901 Census.</i>	<i>for 1905.</i>
36 .....	646 .....	4.6
37 .....	970 .....	22.6
38 .....	1120 .....	21.4
39 .....	458 .....	10.9
40 .....	472 .....	19.0
41 .....	830 .....	22.9
42 .....	465 .....	30.1
43 .....	1277 .....	14.8
44 .....	1461 .....	23.2
45 .....	980 .....	15.3
46 .....	1039 .....	16.3
47 .....	1131 .....	19.4
48 .....	1023 .....	20.5
49 .....	605 .....	11.5

*WITTON AND LIVESEY.**Enumeration**Population at**Death-rate*

<i>District.</i>	<i>1901 Census.</i>	<i>for 1905.</i>
No. 1 .....	1240 .....	16.1
2 .....	1197 .....	19.2
3 .....	1076 .....	19.5
4 .....	953 .....	30.4
5 .....	1043 .....	8.6
6 .....	958 .....	11.4
7 .....	1036 .....	20.2
8 .....	1190 .....	14.2
9 .....	1115 .....	17.0
10 .....	1301 .....	14.6
11 .....	820 .....	8.5
12 .....	827 .....	9.6
13 .....	891 .....	17.9
14 .....	892 .....	11.2
15 .....	989 .....	18.2
16 .....	932 .....	18.2
17 .....	735 .....	19.0
18 .....	1056 .....	10.4
Part of 19 .....	144 .....	6.9
.. 20 .....	196 .....	20.4
.. 24 .....	194 .....	10.3

## Causes of Death in the County Borough of Blackburn during the Year 1905.

**ESTIMATED POPULATION TO THE MIDDLE OF 1905, 132,742.**

[illegible]

[illegible]

# AGES.

## CAUSE OF DEATH.

CAUSE OF DEATH.	All Ages.													Total.		
	85 and upwds															
	0 to 1	1 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 35	35 to 45	45 to 55	55 to 60	60 to 65	65 to 75	75 to 85		M	F
60 Dentition .. .. .	10	10	..	..	..	..	..	..	..	..	..	..	..	12	8	20
61 Rickets .. .. .	1	2	..	..	..	..	..	..	..	..	..	..	..	1	2	3
62 Old Age, Senile Decay ..	..	..	..	..	..	..	..	1	1	8	45	73	11	60	79	139
63 Convulsions .. .. .	26	5	2	1	..	..	..	..	..	..	1	..	..	17	17	34
64 Meningitis .. .. .	6	1	1	..	1	3	1	..	1	..	..	..	..	6	7	13
65 Encephalitis .. .. .	1	..	..	..	..	..	..	..	..	..	..	..	..	2	..	2
66 Apoplexy, Cerebral Hæmorrhage	..	..	..	..	..	2	4	16	6	19	26	8	1	31	52	83
67 Softening of Brain .. .. .	..	..	..	..	..	..	..	3	4	..	7	1	1	9	6	15
68 Hemiplegia, Brain Paralysis	..	..	..	..	..	..	..	2	..	3	6	..	..	7	5	12
69 General Paralysis of Insane	1	..	..	1	..	..	2	4	..	..	..	..	..	5	2	7
70 Other Forms of Insanity ..	..	..	..	1	..	..	2	..	..	..	..	..	..	2	1	3
71 Chorea .. .. .	..	..	1	..	..	..	..	..	..	..	..	..	..	1	1	1
72 Cerebral Tumour .. .. .	..	..	..	..	..	..	..	..	..	1	..	..	..	1	..	1
73 Epilepsy .. .. .	..	..	..	1	1	2	1	2	..	1	..	..	..	3	6	9
74 Laryngismus Stridulus ..	2	..	..	..	..	..	..	..	..	..	1	..	..	1	1	5
75 Locomotor Ataxy .. .. .	..	..	..	..	..	..	1	3	..	..	..	..	..	4	1	2
76 Paraplegia, Diseases of Spinal Cord	..	..	1	1	1	2	1	..	2	1	2	1	..	4	6	10
77 Other and ill-defined { Paralysis Agitans Multiple Peripheral Neuritis Diseases of Brain } Bulbar Paralysis..	..	..	..	..	..	..	1	1	1	..	1	1	..	..	3	3
or Nervous System { .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	1	2	2
78 Otitis, Otorrhœa .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
79 Diseases of Nose, Epistaxis ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
80 Diseases of Eye, Ophthalmia ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
81 Pericarditis .. .. .	..	..	..	..	..	2	1	..	..	..	..	1	..	2	2	4
82 Endocarditis, Valvular Diseases of the Heart	..	..	1	3	1	6	6	14	9	5	10	4	..	11	52	63
83 Hypertrophy of Heart .. .. .	..	..	..	..	..	..	..	3	..	2	..	..	..	3	2	5
84 Angina Pectoris .. .. .	..	..	..	..	..	2	2	..	1	1	1	..	1	5	..	5
85 Aneurism .. .. .	..	..	..	..	..	..	..	..	1	1	1	1	..	1	3	4
86 Senile Gangrene .. .. .	..	..	..	..	..	..	..	..	1	..	..	..	..	..	2	2
87 Embolism, Thrombosis ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
88 Phlebitis .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
89 Varicose Veins .. .. .	..	..	..	..	..	..	2	1	..	..	3	..	..	3	3	0
90 Other and ill-defined { Fatty Degeneration.. Diseases of Heart } Cardiac Dilatation ..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1	1
and Circulatory { Atheroma .. .. .	..	..	..	..	..	..	..	..	2	1	1	1	..	2	2	4
System { Heart Disease undefined ..	1	1	..	..	1	9	8	5	1	15	15	4	..	22	39	61



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# CAUSE OF DEATH.

## AGES

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to  
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to  
60

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to  
45

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to  
35

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to  
25

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to  
20

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to  
15

5  
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5

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to  
1

121 Diseases of Testis and Penis .. .. .

122 Diseases of Ovaries .. .. .

123 Diseases of Uterus and Appendages .. .. .

124 Diseases of Vagina and External Genital Organs .. .. .

125 Diseases of Breast .. .. .

126 Abortion, Miscarriage .. .. .

127 Puerperal Mania .. .. .

128 Puerperal Convulsions .. .. .

129 Placenta Praevia, Flooding .. .. .

130 Puerperal Thrombosis .. .. .

131 Other and ill-defined Accidents and Diseases of Pregnancy and Child Birth .. .. .

132 Arthritis, Ostitis, Periostitis .. .. .

133 Other and ill-defined Diseases of Osseous System .. .. .

134 Ulcer, Bedsore .. .. .

135 Eczema .. .. .

136 Pemphigus .. .. .

137 Other and ill-defined Diseases }  
of Integumentary System .. .. .

## DEATHS FROM EXTERNAL CAUSES:

By Accident or Negligence.

139 Vehicular Traffic .. .. .

140 On Railways .. .. .

143 By Machinery .. .. .

145 Burns and Scalds .. .. .

146 Poisons, Poisonous Vapours .. .. .

149 Poisoning .. .. .

150 Drowning .. .. .

151 Suffocation, Overlaid in Bed .. .. .

152 Suffocation, otherwise .. .. .

153 Falls, not specified .. .. .

156 Homicide .. .. .

1

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## SUICIDES, all Forms





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5 " 15	1	1	1	..	1	1	..	..	..	1	..	..	..	1	1	..	..	..	..	..	..	..	2	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	22
15 " 25	2	5	1	2	..	4	1	..	..	..	..	..	..	1	2	1	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	4	33
25 " 35	2	5	3	2	2	1	2	..	2	..	..	..	..	2	1	4	3	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	2	33
35 " 45	3	4	1	1	2	2	..	2	1	1	1	..	..	1	1	1	1	1	..	1	..	2	3	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	4	24
45 " 55	2	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	2	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	11	
55 " 65	..	..	..	..	..	..	..	..	..	1	1	1	1	..	..	..	..	1	..	..	..	1	2	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	1	1	
65 and upwards	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		
TOTAL	11	16	3	6	3	10	2	2	..	6	2	1	1	1	3	3	6	5	2	2	..	6	..	10	8	..	..	4	..	1	3	2	1	2	..	1	12	1	6	142		

Other Respiratory Diseases.																																								
Under 1	12	7	4	1	1	8	1	1	3	6	...	1	...	...	...	1	2	1	1	...	...	2	...	15	8	...	...	2	1	...	...	1	...	...	...	3	82			
1 " 5	4	6	2	...	3	6	...	1	2	5	...	1	...	...	...	...	3	1	2	...	...	2	...	4	3	1	...	2	1	...	...	...	...	1	...	...	4	54		
5 " 15	...	2	...	...	1	2	1	...	...	1	...	...	...	...	...	...	1	1	...	...	...	...	1	1	...	...	...	...	...	...	...	...	...	...	...	1	12			
15 " 25	...	1	...	...	...	1	...	1	...	2	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	8			
25 " 35	2	1	1	...	...	2	...	1	...	2	1	...	...	...	...	...	1	1	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	1	17		
35 " 45	1	...	1	1	1	1	...	...	...	2	...	...	...	...	...	...	1	...	...	1	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	17		
45 " 55	1	2	...	1	1	1	1	1	1	1	2	...	...	...	...	...	...	...	...	...	3	1	2	5	1	...	3	1	...	...	1	...	...	1	1	2	6	...	1	46
55 " 65	5	2	1	1	...	5	...	1	...	3	...	...	...	...	...	...	2	1	2	...	...	3	...	3	2	...	2	1	...	2	1	...	...	1	3	31	...	1	73	
65 and upwards	5	1	1	1	1	1	...	1	2	5	1	...	...	...	2	...	4	3	...	1	...	...	7	4	...	...	...	...	...	...	2	...	1	2	1	50	...	7	103	
TOTAL	30	22	10	5	8	27	3	7	8	27	5	2	...	...	2	2	13	8	6	1	...	10	1	33	24	2	...	9	4	1	3	6	...	4	5	6	100	...	18	412

[illegible]

Premature Birth	Under 1.....	19	17	5	1	1	17	2	2	7	11	1	2	2	5	2	...	6	5	4	...	...	1	1	24	15	1	...	9	3	2	2	4	...	2	1	1	...	1	16	192
Marasmus, etc...	1 " 5.....	3	...	1	...	1	2	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	3	2	...	1	1	...	...	...	...	...	...	1	...	...	...	2	19	
Teething .....																																									
Convulsions.....																																									
TOTAL .....		22	17	6	1	2	19	2	2	7	13	1	2	2	5	2	...	6	5	4	...	...	1	1	27	17	1	1	10	3	2	2	4	...	2	1	2	...	1	18	211

Old Age.																																						
TOTAL .....	11	1	2	1	...	1	...	2	...	5	1	2	...	2	2	1	2	3		1	...	7	7	...	...	1	...	5	4	1	..	...	1	4	64	3	5	139





TABLE I.—Vital Statistics of Whole District during 1905 and Previous Years.

Name of District: *BLACKBURN.*

Year.	Population estimated to Middle of each Year.	BIRTHS.		TOTAL DEATHS REGISTERED IN THE DISTRICT.					TOTAL DEATHS IN PUBLIC INSTITUTIONS IN THE DISTRICT.	Deaths of Non-residents registered in Public Institutions in the District.	Deaths of Residents registered in Public Institutions beyond the District.	NETT DEATHS AT ALL AGES BELONGING TO THE DISTRICT.	
		Number	Rate.*	Under 1 Year of Age.		At all Ages.						Number.	Rate.*
				Number.	Rate per 1,000 Births registered.	Number.	Rate.*						
								5					
1895	123181	3899	31.6	920	235.9	3178	25.7	333	94	...	3084	25.0	
1896	123926	3552	28.6	611	172.0	2346	18.9	264	77	...	2269	18.3	
1897	124675	3629	29.1	752	207.2	2605	20.8	301	76	...	2529	20.2	
1898	125430	3662	29.1	750	204.8	2510	20.0	306	87	14	2439	19.4	
1899	126185	3643	28.8	706	193.7	2674	21.1	343	82	15	2607	20.6	
1900	126951	3438	27.0	762	221.6	2897	22.8	365	96	19	2820	22.2	
1901	127823	3386	26.5	654	193.7	2578	20.1	338	101	18	2495	19.5	
1902	130239	3357	25.7	530	157.8	2330	17.8	414	117	34	2247	17.2	
1903	131079	3304	25.2	523	158.2	2147	16.3	336	105	27	2069	15.7	
1904	131908	3100	23.5	595	191.9	2353	17.8	353	106	27	2274	17.2	
Averages for years 1895-1904.	127139	3497	27.5	680	193.6	2561	20.1	335	94	15	2483	19.5	
1905	132742	3193	24.0	467	146.2	2231	16.8	383	85	37	2183	16.4	

\* Rates in Columns 4, 8, and 13 calculated per 1,000 of estimated population.

NOTE.—The deaths to be included in Column 7 of this table are the whole of those registered during the year as having actually occurred within the district or division. The deaths to be included in Column 12 are the number in Column 7, corrected by the subtraction of the number in Column 10 and the addition of the number in Column 11.

By the term "Non-residents" is meant persons brought into the district on account of sickness or infirmity, and dying in public institutions there; and by the term "Residents" is meant persons who have been taken out of the district on account of sickness or infirmity and have died in public institutions elsewhere.

The "Public institutions" to be taken into account for the purposes of these tables are those into which persons are habitually received on account of sickness or infirmity, such as hospitals, workhouses, and lunatic asylums. A list of the institutions in respect of the deaths in which corrections have been made should be given on the back of this table.

Area of District in Acres (exclusive of area covered by water)	.....At Census 1901	6978	Total population at all ages	.....127,626	At Census of 1901.
	Added	453	Number of inhabited houses	.....27,429	
			Average number of persons per house	.....4.6	
	Total	7431	In November, 1901, an addition was made to the Borough, viz.—Total persons	.....1,590	

I. Institutions within the district receiving sick and infirm persons from outside the district.	II. Institutions outside the district receiving sick and infirm persons from the district.	III. Other Institutions, the deaths in which have been distributed among the several localities in the district.
Union Workhouse. Blackburn and East Lancashire Infirmary. Blackburn Infectious Diseases Hospital.	Lancaster Asylum. Whittingham Asylum. Winwick Asylum. Prestwich Asylum.	Private Residence, Oldham. St. Mary's Home, Manchester. Culcheth Hall, Manchester. Royal Infirmary, Manchester. Private Residence, Clitheroe. Private Residence, Colne. Private Residences, Blackpool. Victoria Hospital, Blackpool. Borough of Darwen Hospital for Women, Liverpool. Royal Infirmary, Liverpool.

Is the Union Workhouse within the District?.....Yes.

TABLE IV.—Causes of, and Ages at, Death during the Year, 1905.

CAUSES OF DEATH.		Deaths at the subjoined ages of "Residents," whether occurring in or beyond the District.							Deaths at all ages of "Residents" belonging to Localities, whether occurring in or beyond the District.											Total Deaths whether of "Residents" or non-Residents in the District.				
		All ages	Under 1 year	1 and under 5.	5 and under 15.	15 and under 25.	25 and under 65.	65 and upwards	Stephen's	Trinity	Michael's	John's	Silas	Paul's	Peter's	Mary's	Matthew's	Thomas	Park			Luke's	Mark's	Andrew's
I	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23		
Small-pox ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
Measles ...	42	9	30	3	...	...	...	2	7	2	2	...	2	5	3	2	4	1	4	3	5	...		
Scarlet fever ..	76	5	46	22	2	1	...	8	10	8	3	3	7	9	2	4	7	3	3	2	7	49		
Whooping-cough ..	11	6	5	...	...	...	...	2	2	1	...	...	1	1	1	...	1	1	...	1	...	...		
Diphtheria & membranous croup ...	33	2	15	15	...	1	...	3	2	6	3	...	3	1	4	2	2	1	...	1	5	2		
Croup ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
Fever { Typhus ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
Enteric ...	15	...	...	3	1	11	...	...	3	...	...	1	2	1	2	1	4	...	1	...	...	7		
Other Continued	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
Epidemic Influenza	20	...	1	1	3	11	4	1	1	1	2	1	1	2	...	1	2	1	...	4	3	...		
Cholera ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
Plague ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
Diarrhoea (see notes at back) ...	93	76	8	3	...	3	3	5	6	3	2	...	14	10	9	7	8	8	9	6	6	...		
Enteritis (see notes at back) ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
Puerperal Fever (see notes at back) ...	10	...	...	...	1	9	...	1	2	1	...	...	...	3	...	...	...	...	1	...	2	...		
Erysipelas ...	2	...	...	1	...	1	...	...	...	...	...	...	...	...	...	...	1	1	...	...	...	...		
Other Septic Diseases ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
Phthisis (Pulmonary Tuberculosis) ...	142	3	2	13	22	101	1	9	7	12	8	4	13	6	17	14	11	11	10	12	8	25		
Other Tubercular Diseases ...	84	25	25	15	2	15	2	9	3	7	8	2	6	7	6	7	6	4	3	7	9	7		
Cancer, Malignant Disease (see notes at back)	113	...	...	...	...	75	38	3	11	6	9	9	9	7	6	10	8	13	4	8	10	12		
Bronchitis ...	214	41	13	2	1	78	79	20	19	9	5	8	17	20	22	18	22	15	16	14	9	38		
Pneumonia ..	190	42	41	7	9	68	23	15	7	9	10	8	13	10	16	17	13	22	21	15	14	13		
Pleurisy ...	5	...	...	...	...	4	1	...	...	...	1	...	2	...	1	...	1	...	...	...	...	...		
Other Diseases of Respiratory Organs ...	3	...	...	...	...	2	1	1	...	...	...	...	1	...	...	1	...	...	...	...	...	...		
Alcoholism } Cirrhosis of Liver }	20	...	...	...	1	16	3	...	...	2	1	...	1	...	3	2	3	3	2	1	2	4		
Venereal Diseases	9	4	...	...	...	5	...	1	1	1	...	...	1	2	...	1	1	...	1	...	...	4		
Premature Birth ...	67	67	...	...	...	...	...	6	5	5	3	4	5	6	3	7	7	5	6	2	3	1		
Diseases and Accidents of Parturition	21	1	...	...	1	19	...	1	2	1	...	1	...	2	2	3	3	3	2	...	1	4		
Heart Diseases ...	155	1	1	4	7	100	42	10	12	11	6	15	16	7	9	21	11	4	11	12	10	23		
Accidents ...	41	2	7	4	3	20	5	3	3	2	1	...	...	4	4	5	2	3	1	5	8	28		
Suicides ...	18	...	...	...	7	10	1	3	...	1	...	...	1	3	...	2	...	2	1	3	2	2		
Homicide ...	1	...	...	...	...	1	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	1		
All other Causes ...	798	183	38	34	29	266	248	57	59	53	46	57	74	71	43	58	63	51	72	47	47	103		
All ...	2182	467	232	127	89	817	451	160	162	141	110	113	180	178	153	183	180	152	168	143	151	383		

## NOTES TO TABLE IV.

NOTES.--(A) In this Table all deaths of "Residents" occurring in public institutions, whether within or without the district, are to be included with the other deaths in the columns for the several age groups (columns 2-8). They are also, in columns 9-15, to be included among the deaths in their respective "Localities" according to the previous addresses of the deceased as given by the Registrars. Deaths of "Non-residents" occurring in public institutions in the district are in like manner to be excluded from columns 2-8 and 9-15 of this Table.

(B) See notes on Table I. as to the meaning of "Residents" and "Non-residents" and as to the "Public Institutions" to be taken into account for the purposes of these Tables. The "Localities" should be the same as those in Tables II. and III.

(C) All deaths occurring in public institutions situated within the district, whether of "Residents" or of "Non-residents," are in addition to being dealt with as in note (A) to be entered in the last column of this Table. The total number in this column should equal the figures for the year in column 9, Table I.

(D) The total deaths in the several "Localities" in columns 9-15 of this Table should equal those for the year in the same Localities in Table II., sub-columns C. The total deaths at all ages in column 2 of this Table should equal the gross total of columns of 9-15, and the figures for the year in column 12 of Table I.

(E) Under the heading of "Diarrhœa" are to be included deaths certified as from diarrhœa, alone or in combination with some other cause of ill-defined nature; and also deaths certified as from

Epidemic enteritis;

Zymotic enteritis;

Epidemic diarrhœa. Summer Diarrhœa;

Dysentery and dysenteric diarrhœa;

Choleraic diarrhœa, cholera, cholera nostras

(in the absence of Asiatic cholera).

Under the heading of "Enteritis" are to be included those certified as from Gastro-enteritis, Muco-enteritis, and Gastric catarrh, unless from information obtained by enquiry from the certifying practitioner or otherwise, the Medical Officer of Health should have reasons for including such deaths, especially those of infants, under the specific term "Diarrhœa." Deaths from diarrhœa secondary to some other well-defined disease should be included under the latter. Under the headings of "Cancer" and "Puerperal Fever," should be included all registered deaths from causes comprised within these general terms.

In recording the facts under the various headings of Tables I., II., III., and IV., attention has been given to the notes on the Tables.



TABLE V.—INFANTILE MORTALITY DURING THE YEAR 1905.

DEATHS FROM STATED CAUSES IN WEEKS AND MONTHS UNDER ONE YEAR OF AGE.

CAUSE OF DEATH.		Under 1 Week	1-2 Weeks	2-3 Weeks	3-4 Weeks	Total under 1 Month	1-2 Months	2-3 Months	3-4 Months	4-5 Months	5-6 Months	6-7 Months	7-8 Months	8-9 Months	9-10 Months	10-11 Months	11-12 Months	Total Deaths under One Year.
ALL CAUSES.	Certified	85	15	21	11	132	45	33	20	48	38	32	25	22	20	14	16	445
	Uncertified	7	1	1	...	9	2	2	2	...	...	2	..	1	1	2	1	22
Common Infectious Diseases.	Small-pox	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Chicken-pox	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Measles	...	...	...	...	...	...	...	...	...	...	...	1	...	2	4	2	9
	Scarlet Fever...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	2	1	5
	Diphtheria: Croup	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1	...	2
Diarrhoeal Diseases.	Whooping Cough	...	...	...	...	...	1	...	1	1	...	...	1	1	...	...	1	6
	Diarrhœa, all forms	...	1	4	1	6	8	9	5	15	11	8	3	6	3	1	1	76
	Enteritis ( <i>not Tuberculous</i> )	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Gastritis, Gastro-intestinal Catarrh..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Premature Birth		50	7	3	3	63	2	...	...	1	1	...	...	...	...	...	...	67



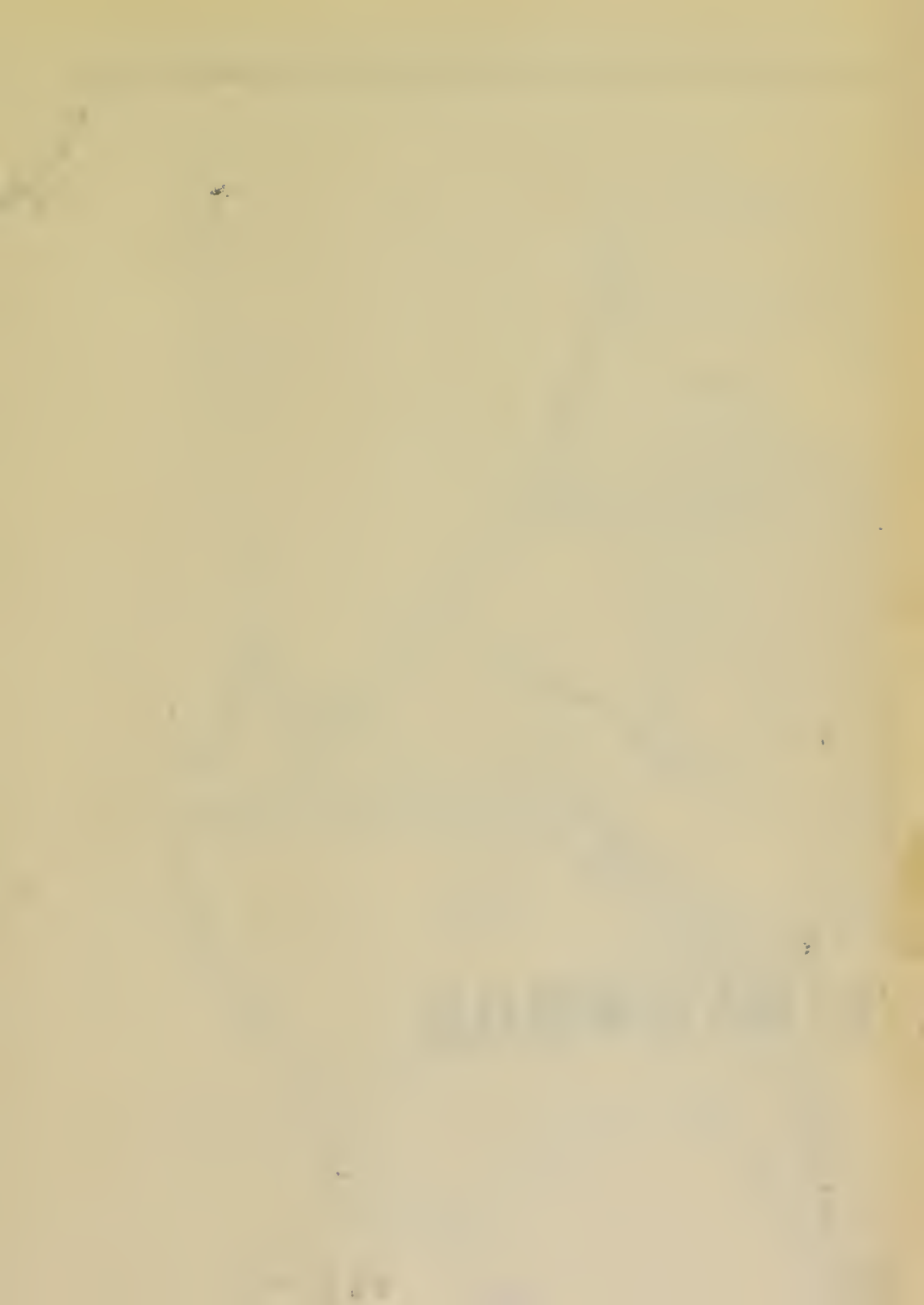
Tuberculous Diseases.	{	Atrophy, Debility, Marasmus	...	6	1	1	3	11	9	7	3	7	7	6	3	1	...	...	54
		{	Tuberculous Meningitis	...	...	...	...	...	...	1	...	1	3	1	1	...	1	...	9
			Tuberculous Peritonitis: Tabes Mesenterica	...	...	...	...	...	1	1	1	1	2	5	1	1	2	...	14
			Other Tuberculous Diseases	...	...	...	...	...	1	1	...	...	...	...	...	1	1	2	...
	Erysipelas	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
	Syphilis	...	...	...	...	...	...	...	1	1	1	1	...	...	...	...	...	4	
	Rickets	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	
	Meningitis ( <i>not Tuberculous</i> )	...	...	...	...	...	...	...	...	1	...	1	1	1	...	...	1	6	
	Convulsions	...	...	...	...	5	1	6	2	14	3	2	...	...	...	1	...	26	
	Bronchitis	...	...	...	...	...	...	1	1	2	8	2	4	4	3	5	4	2	41
	Laryngitis	...	...	...	...	...	1	...	1	...	...	...	...	...	...	...	...	1	
	Pneumonia	...	...	...	...	1	1	...	2	1	1	2	6	3	6	4	6	2	42
	Suffocation, overlaying	...	...	...	...	...	...	...	...	1	...	1	...	...	...	...	...	2	
Other Causes	...	...	...	...	20	3	4	1	28	10	10	6	3	7	1	4	3	4	82
			92	16	22	11	141	47	35	22	48	38	34	25	23	21	16	17	467

Births in the year } legitimate - - 3070  
 } illegitimate - - 123

Population, estimated to middle of 1905 - 132,742.

Deaths from all Causes at all Ages - 2183





THE END

### Registration Sub-Districts.

### *Typhoid Infected Houses* •







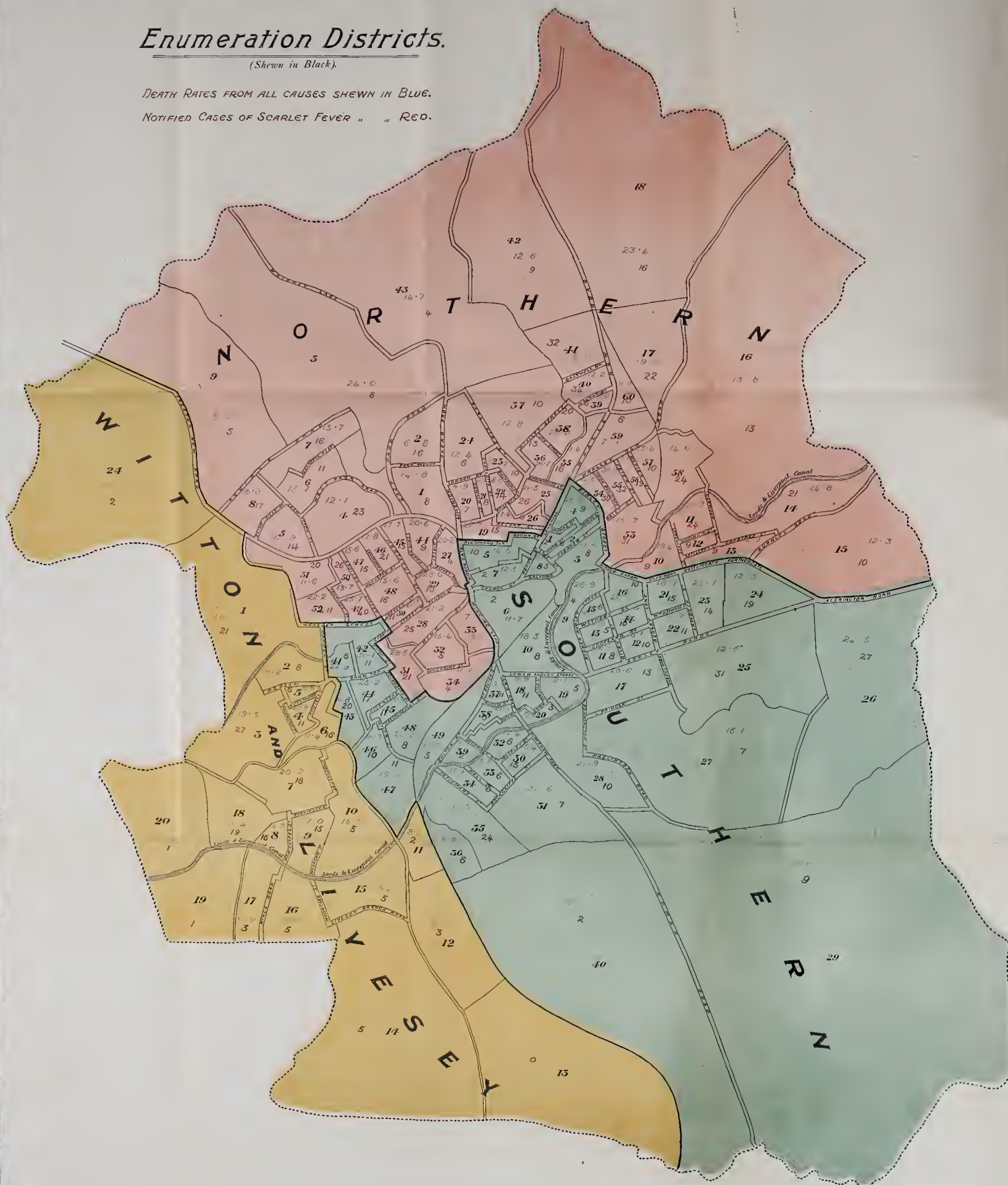
# COUNTY BOROUGH OF BLACKBURN

## Enumeration Districts.

(Shewn in Black).

DEATH RATES FROM ALL CAUSES SHOWN IN BLUE.

NOTIFIED CASES OF SCARLET FEVER " " RED.







*Public Health Office,*

*51, Ainsworth Street,*

*Blackburn* Decr. 21st. 1905

ALFRED GREENWOOD M.D., D.P.H.  
MEDICAL OFFICER OF HEALTH

The Editor,

"British Medical Journal",

429, Strand,

London.

Dear Sir,

I have pleasure in forwarding to you by separate post a copy of my "Report on an Artisans Dwelling for Blackburn."

I am,

Yours faithfully,

*Alfred Greenwood*

Medical Officer of Health.





COUNTY BOROUGH OF BLACKBURN.

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# REPORT

UPON A

MUNICIPAL

# ARTISANS' DWELLING

FOR BLACKBURN.

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BLACKBURN :  
THOMAS BRIGGS, PRINTER, &C., 73, NORTHGATE.  
1905.



PUBLIC HEALTH OFFICE,

51, AINSWORTH STREET,

BLACKBURN.

*November 27th, 1905.*

*To the Health Committee of the Blackburn Town Council.*

The question of the provision of a Municipal Common Lodging-house for Blackburn has been considered by the Health Committee on previous occasions, and it may be of interest if the resolutions are mentioned which have already been passed relating to this subject.

At a Meeting of the Health Committee on February 18th, 1895, the Medical Officer of Health (Dr. Wheatley) reported upon the desirability of the Corporation providing a Municipal Common Lodging House, and it was resolved "That it be referred to the Chairman and Vice-Chairman and the Medical Officer of Health to visit one or two such lodging-houses in other towns, and to report on the matter."

At a Meeting of the Health Committee on March 15th, 1897, it was resolved "That it be an instruction to the Medical Officer of Health to have the report of the Chairman and Vice-Chairman and the Medical Officer of Health on Municipal Common Lodging-houses printed, together with copy of report on the Salford Municipal Common Lodging-house, and a copy forwarded to each member of this Committee, and that a special meeting be called to consider the same."

At a Special Meeting of the Health Committee on July 5th, 1897, it was resolved “(1) That in the opinion of this Committee it is advisable for the Corporation to establish a Municipal Lodging-house to accommodate about 350 persons, subject to a suitable site being obtained. (2) That it be referred to a Special Sub-Committee, consisting of the Right Worshipful the Mayor, Mr. Alderman Eastwood, Councillors J. Law, J. S. Watson, Hamer and Higson, to consider as to a suitable site for the same, and to report to a future meeting of this Committee. (3) That it be a recommendation to the Town Council to adopt part three of the Housing of the Working Classes Act, 1890.”

At a Meeting of the Health Committee, held on the 12th day of December, 1898, a Report of the Special Sub-Committee was read *re* site for Municipal Common Lodging-house.

“The Health Special Sub-Committee beg to report that they have carefully considered the question of a suitable site for the proposed Municipal Common Lodging-house, and have inspected various properties and sites in the borough, and after much negotiation they have tentatively arranged terms for the purchase of a block of property belonging to the Trustees of the late Richard Shakeshaft, fronting Penny Street, at the price of £4,100. The plot contains 2,165 square yards, and is subject to an annual ground rent of £12 11s. 8d.

There is also a small adjoining plot of land, containing four houses and outbuildings, in Jardine Street, belonging to Mr. W. Yates, containing 139 square yards, subject to an annual ground rent of 34s. 9d., and which the Special Sub-Committee have tentatively arranged to purchase for the sum of £250.

The Special Sub-Committee beg to recommend that these two plots be purchased on the terms tentatively



arranged, subject to the consent of the Local Government Board being obtained to the erection of lock-up shops fronting Penny Street as part of the Common Lodging-house block, but not communicating therewith, and they recommend that provisional contracts be entered into, providing that the purchases are to be subject to the approval of the Local Government Board

They also recommend that the Highway, &c., Committee should take a portion of the land thus purchased, which will front Penny Street, for the purpose of widening the street, at a price to be arranged between the two Committees."

At a Meeting of the Health Committee, on February 13th, 1899, it was resolved "That it be an instruction to the Borough Engineer to prepare plans and estimates of the proposed Municipal Common Lodging-house, and submit the same to a future meeting of this Committee, and that the Town Clerk apply to the Local Government Board for sanction to borrow the necessary money."

At a Meeting of the Health Committee, on April 17th, 1899, the Sub-Committee reported "that they had considered a letter which they had received with regard to letting part of the land purchased for a common lodging-house site for the purpose of erecting shops fronting Penny Street, under the proposed common lodging-house, and they recommend that it be an instruction to the Borough Engineer to prepare plans and all necessary details in connection with the scheme, and submit the same to the Sub-Committee for approval, and afterwards to advertise for tenders for the erection of shops, on terms to be settled by the Sub-Committee."

This report of the Sub-Committee was adopted.

At a Meeting of the Health Committee, on May 18th, 1899, the Joint Sub-Committee of the Highway and Health

Committees reported on the widening of Penny Street. This report was adopted, and the offer of the Highway Sub-Committee for the land accepted.

The Report was as follows :—

The Highway and Health Joint Sub-Committees beg to report that they have carefully considered as to the price to be paid by the Highway Committee for a portion of the land about to be purchased by the Health Committee as a site for a Municipal Common Lodging-house. The land which it is proposed to throw into the street contains 380 square yards, and will enable the Highway Committee to make Penny Street 50 feet wide from Old Chapel Street to Haworth's Court, and the Highway Sub-Committee offer the sum of £1,000 for this land.

At a Meeting of the Health Committee, on September 7th, 1899, the Town Clerk reported that the plans of the proposed Municipal Common Lodging-house were now ready, and that the Local Government Board still could not see their way to grant a borrowing power which would enable the Corporation to erect shops underneath. It was resolved "that the proposed Municipal Common Lodging-house be not proceeded with at present."

---

In Part VIII. - Common Lodging-houses of the Blackburn Corporation Act of 1901— Clause 76, the following appears :—

"The Corporation may when the land hereinafter described has been acquired by them, appropriate the same for the purposes of Part III. of the Housing of the Working Classes Act, 1890, and may erect and maintain thereon lock-up Shops with lodging houses for the working-classes thereover, and may let such shops to such persons, and upon such terms and conditions as they may think fit, and all rents received by the

Corporation in respect of such shops shall be applied in the same manner as charges received for the tenancy or occupation of such lodging-houses.

The land referred to in this section is —

A plot of land containing by admeasurement two thousand one hundred and sixty-five square yards or thereabouts, and bounded on the north-westerly side by Penny Street, on the south-easterly side by property in Jardine Street, belonging to William Bates and Thomas Baines, and by a back road on the north-easterly side by property in Plough Barn Yard belonging to Messrs. Dutton's, and on the south-westerly side by No. 40, Penny Street, and houses in rear belonging to Martha Stones, and a back road behind.

---

At a Meeting of the Health Committee, on March 17th, 1901, it was resolved "that it be referred to the Sub-Committee to consider and report generally upon the question of proceeding with the erection of a Municipal Common Lodging-house."

At a Meeting of the Health Committee, on December 9th, 1902, a petition was read from residents in Penny Street and the vicinity against the erection of the proposed Municipal Common Lodging-house in Penny Street, and it was resolved that the Town Clerk reply to the petition."

At the Quarterly Council Meeting, held on August 3rd, 1905, the following resolution was passed:—"That this Council requests the Health Committee to consider and report upon the advisability of providing a Municipal Lodging-house"

At a Meeting of the Health Committee, held on August 24th, 1905, the above resolution of the Town Council was read, and it was resolved: "That the consideration of the

matter be deferred, to enable the Chairman, Vice-Chairman, and the Medical Officer of Health to visit Municipal Common Lodging-houses in other towns, and report upon the same to the next meeting of this Committee."

In accordance with the last resolution of the Health Committee, Lodging-houses have been visited at Darwen, Manchester, Salford, and London.

The following particulars refer to the Lodging-houses in these towns :--



*I.*

---

DARWEN.





## I.—DARWEN.

The following are the particulars of the Municipal Lodging-house at Darwen :—

The ground floor has an area of 940 square yards, and contains two Entrance Halls and Office, Superintendent's House, consisting of kitchen, scullery, and two bedrooms.

Crockery Store and Serving Bar	...	23' 0" x 12' 0"
Males' large Day Room	... ..	41' 0" x 26' 6"
Do. Dining Room	... ..	32' 0" x 26' 6"
Males' Cooking Kitchen	... ..	22' 0" x 8' 0"
Females' Joint Day and Dining Room		23' 0" x 18' 0"
Do. Cooking Kitchen	...	18' 0" x 8' 0"

Male and Female General Laundries, House Laundry and Scullery, separate Baths, Lavatories, Latrines and yards for each sex.

The first floor has an area of 493 square yards, and contains—

Males' large Dormitory, with 36 beds, and size	75' 0" x 27' 0"
Males' Smaller Dormitory, with 13 beds ,,	32' 0" x 18' 0"
Females' Dormitory, with 16 beds, and size...	37' 0" x 18' 0"

Separate Stairs, Landings, and Lavatories for each sex.

The second floor has an area of 483 square yards, and contains—

Males' large Dormitory, with 36 beds, size	75' 0" x 27' 0"
Do. smaller Dormitory, with 29 beds, size ..	73' 0" x 18' 0"

Stairs, Landings, and Lavatory accommodation.

The total cost of the establishment when complete will be £7,850, which is made up as follows :—

## BUILDINGS.

	£	s.	d.
Mason's Contract ... ..	3266	15	4
Joinery and Slating ... ..	1539	0	6
Plumbing ... ..	637	10	0
Steel Cubicle Divisions ... ..	520	0	0
Plastering ... ..	187	0	0
Heating Apparatus ... ..	138	0	0
Drainage, Water and Street Expenses ...	90	0	0
Approximate Contingencies ... ..	150	0	0
	<hr/>		
	£6528	5	10

## FITTINGS AND FURNITURE.

	£	s.	d.
Laundry ... ..	389	5	0
Boiler ... ..	109	3	0
Engine ... ..	45	10	0
Cooking Apparatus ... ..	164	0	0
Crockery ... ..	52	17	4
Furniture ... ..	112	10	0
Bedding, &c. ... ..	216	6	1
	<hr/>		
Total for Fitting, &c. ... ..	1089	11	5
Total for Building .. ..	6528	5	10
	<hr/>		
	£7842	17	3

The Borough Treasurer states that the annual interest and Sinking Fund for the capital account will be £400, and the estimated annual fixed charges upon the schemes are as follows :—

	£	s.	d.
Interest on Borrowed Money ... ..	240	0	0
Sinking Fund ... ..	160	0	0
Rates Contributed to Town ... ..	40	0	0
County and Poor Rate ... ..	15	0	0
Insurance ... ..	5	0	0
	<hr/>		
	£460	0	0

There are then the administrative and Establishment expenses to add, and these have been estimated as follows :—

	£	s.	d.	£	s.	d.
Superintendent, Porter, and						
Cleaners' Wages... ..	250	0	0			
Coal, Coke, Water and Gas ..	130	0	0			
General Repairs, Cleaning Materials						
and Sundries, Establishment						
expenses ... ..	35	0	0			
Proportion of Renewal Bed Linen						
each five years ... ..	25	0	0			
				442	0	0
Total Annual Expenses ... ..	£902	0	0			
Or if Sinking Fund of £160 and proportion						
of Rates kept in Town of £40 be deducted.	200	0	0			
Nett Total Annual Cost ... ..	£702	0	0			

The total bed accommodation will be 130 beds, and assuming 5d. per single night is charged for these, or if taken for the full week, 2/6 instead of 2/11, being a reduction in this case for one night, as at Salford. Then 130 beds at 2/6 per week will equal per annum £845, which would be within £57 of paying the total gross Annual outgoing, or really a profit of £143 after deducting Sinking Fund and Borough Rate.

The Annual Income per bed is here set down at £6 10s. od. At Salford during the first year each bed earned £6 10s. od., and during the past year £6 18s. od., whilst during the present year it is expected that each bed will earn over £7 0s. od. The maximum per bed, assuming no allowance was made for those staying a full week, would be £7 12s. od.



*II.*

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SALFORD.





## II.—SALFORD.

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The following particulars have been taken from a report by the Medical Officer of Health for Salford, on the

### MODEL LODGING-HOUSE ERECTED IN BLOOM STREET, SALFORD.

The site is adjacent to the Gas Offices, and has a frontage of 150 feet to Bloom Street; it is irregular in shape, being 57 feet deep at one end, and 120 feet at the other, the area occupied being 1410 square yards. It belonged to the Improvement Committee of the Corporation, and was transferred to the Health Committee for the sum of £1550.

The original plans having to be prepared in an exceedingly limited time, it was thought best, instead of commencing “*ab initio*” to base the Salford scheme upon the successful design for the London Connty Council Model Lodging-house (the competition for which was settled just about that time), and this general principle has been adhered to throughout, though the London plans have been departed from in nearly every detail, and in many important points.

The building consists of two main blocks, each five storeys in height, both fronting the street, and separated by a one storey entrance hall. This arrangement gives plenty of light and air to all four sides of the dormitories, which occupy the whole of the three upper storeys.

The elevations are in common brick work, relieved with terra cotta dressings.

Entering from the street through the principal doorway between the two main blocks a spacious hall is reached, 30 feet wide and 36 feet long, roofed with Durolite (an unbreakable glazing material composed of woven wire and varnish). Im-

mediately on each side of the inner door are two offices used by the manager for "the receipt of custom," the issue of checks, the distribution of correspondence, the sale of stamps and stationery, the deposit of valuables, the control of the gas taps, &c.

On the left side of the hall there is the day room, 71 feet by 31 feet, and 14 feet high, lighted on three sides by windows, and warmed by means of three Galton stoves and two ordinary fire-grates. In this room the lodgers sit, smoke, talk, read, write, and (as in some lodging-houses) they are allowed to carry on the manufacture of various small articles, providing the work creates neither nuisance nor annoyance. This room is also used for entertainments and concerts.

Opening out of this room is the Locker Room, where a small numbered locker is provided for each lodger, the number of each locker corresponding with the number of a cubicle in the dormitory.

To the right of the hall is the Dining-room, 48 feet by 31 feet, provided with cooking ranges and grills. In connection with this apartment are the grocery shop, crockery room, scullery, and kitchen.

The idea is that a lodger wishing to dine, if he has not purchased the materials outside, proceeds to the grocery, buys what he requires, asks at the crockery counter for the utensils needed, cooks his food in the kitchen or on a grill, partakes of his meal in the dining-room, and returns the used cooking utensils and crockery to the scullery, there to be cleansed by the scullery attendants.

The kitchen is provided with two hot plates, each 12 feet by 4 feet, and containing 20 ovens for baking purposes ; whilst on the top of the plate a number of pans may be boiled. Hot water is provided by means of a large copper cylinder, heated by an internal steam pipe, so that at any hour there is sufficient hot

water for the requirements of the men. There are also two dressers, and two sinks provided with hot and cold water.

“The Grocery,” or shop, for the supply of provisions, has the ordinary counter and shelving, and also a staircase leading down to a large kitchen and storeroom in the basement. The caterer is able to provide cooked provisions for the lodgers, and, if required, can supply hot meats and dinners. The grocery is so arranged that it can be separated from the main building by means of a locked door, and thus the caterer is at liberty to attend to other matters at certain times of the day when there is no demand for eatables.

The lodgers are not allowed to enter the Crockery Store or the Scullery, but attendants in these rooms supply or receive back the crockery as used. Enamelled steel has been selected as the most suitable and durable material for the “crockery,” and a very complete assortment has been provided. There is for each man three plates (in varying sizes), a pint jug, a pint basin, a pie dish, a cup and saucer, together with a knife, fork, dessert spoon, and tea spoon; in addition to the above there are small numbers of quart and half-pint jugs, roasting tins, sauce pans, and kettles, so that all reasonable demands may be met. After some years’ experience, however, it was decided to use the ordinary crockery ware.

The Scullery is provided with sinks and a kitchen range for the use of the attendants.

Returning now to the hall, and passing through a doorway leading to the rear of the block, a range of one storey buildings is reached, containing the Lavatories, Baths, Conveniences, and Laundries. One room contains seven small baths, separated by screens, and fitted up with hot and cold water and showers; another room contains ten lavatory basins, and is amply furnished with towels and mirrors; a third room is fitted up as a urinal; and in the next room there are twelve water closets, each separately enclosed. Further on along the yard is a small laundry,

fitted up with washing troughs and drying closets, so that any lodger may wash his clothing free of charge. It will be seen that ample provision is made both for cleanliness of person and of apparel; and it is hoped that by giving these facilities a higher tone may be reached among the customers of this house than at present obtains amongst the occupants of many lodging-houses. The manager is authorised to refuse admittance to any person who by reason of uncleanness would be a nuisance to the other lodgers.

A very complete laundry has been fitted up, with steam washing and drying machinery, to be worked under the care of the women attendants. Here the whole washing of the establishment is done, and also the clothing of such lodgers as care to pay the nominal charges claimed.

The staircase to the dormitories leads out of the hall, and a locked gate prevents the lodgers or unauthorised intruders proceeding to the dormitories without the cognisance of the manager or his deputy.

Above the ground floor the plan of the building resolves itself into two main blocks, with a connecting landing and staircase, and with conveniences semi-detached, on the pavilion system.

The one block is 69 feet by 31 feet, and the other averages 71 feet by 31 feet, the clear height of each storey being 12 feet. Each of the three dormitories in one block is divided into 48 cubicles, each of the other three into 47, and thus there is accommodation for 285 lodgers. The cubic space allowed for each lodger is nearly 600 cubic feet,—just twice the amount that a lodger in a common lodging-house enjoys when a house is registered for the maximum number the law allows. The cubicle divisions are of sheet steel (Messrs. Falkner's patent). Each cubicle is fitted up with a spring mattress, a flock bed, blankets, sheets, and quilt, there being thick blankets and quilts for winter use, and thin for summer. There are also, in addition, a

chair, a locked box for the safe keeping of private property (the key corresponding with the key of the locker in the day room), a small mirror, and a comb. Each of the cubicles against the outer wall has a window, part of which is hung on pivots, so that any lodger who desires abundance of fresh air may obtain it without inconveniencing others in the dormitory. A set of conveniences for each dormitory has been arranged, cut off from the sleeping rooms by short, well-ventilated lobbies, yet within easy access from each cubicle.

The ventilation is arranged on the "natural" principle. From the ceiling of each room a foul air outlet shaft runs up to the roof, where it terminates in a cross tube running from one side of the roof to the other, with louvre outlets; so that the wind, from whichever direction it blows, may create an "exhaust" at one or the other end of the cross tube.

The fresh air inlets are all provided near the floor level. Those in the dormitories are all constructed so as to bring the air into the aisles or passages, not into the cubicles, and the heating coils are so arranged that the cold air impinges upon them, and may be warmed before being distributed through the room. In the dayroom the fresh air is admitted through the Galton Stoves, and is warmed to a comfortable temperature before distribution. The dining-room is only used for short periods, and the opening windows suffice for its adequate ventilation.

It being quite possible that in spite of all precautions some persons may be admitted whose apparel holds vermin or disease germs, provision has been made for dealing with such cases.

In the laundry a small disinfector has been set up on the "Washington Lyons" principle, just large enough to contain a mattress.

The whole construction of the building is, as far as possible, fire resisting. The floors of the dormitories and day rooms are



of solid planks, grooved and fitted with iron tongues; the stair treads are of greenheart timber, carried on steel framework; the cubicle divisions are of sheet steel. The floors of the kitchen, scullery and bathroom are constructed of rolled steel joists and concrete.

Sets of fire extinguishing apparatus are provided on each staircase landing, each set including a hydrant from the water main, a hosepipe and nozzle, and a set of fire buckets. From each dormitory an external iron fire escape staircase has been provided. The doors of these stairs are so arranged that they will fly open from pressure on the inside. Fire-drills are held occasionally, so that the attendants and permanent lodgers may know how to manage in case a fire should occur.

In order that the manager may be always on the premises, or within reach, it was deemed necessary to provide him with dwelling-house accommodation as part of the scheme. A small detached house has therefore been erected on one corner of the site, containing on the ground floor parlour, front kitchen, and scullery; on the first floor, two bedrooms and bathroom, &c.; and three bedrooms on the second floor. This extra number of bedrooms has been provided to accommodate, if thought desirable, some of the women attendants.

## Appendix No. 1.

### Estimated Capital Expenditure.

				£	s	d.
Cost of Land	...	...	...	1550	0	0
Outlay on Building	...	...	...	11000	0	0
Outlay on Furniture	...	...	...	2300	0	0
				<hr/>		
				£14850	0	0
				<hr/>		



## Appendix No. 2.

### Regulations to be observed by Lodgers.

1. Male lodgers only will be received into the House; the hours of admittance are between 6 a.m. and 11 p.m.
2. Persons of cleanly and respectable appearance only, and such as the Manager shall pass as apparently sober, free from disease or filth, and sound in mind, will be admitted into the House, and such lodgers will be admitted at the following charges, to be paid in advance, namely : 4d. per night, or 2s. per week.
3. No lodgers will be admitted to the dayroom or kitchen until provided with a ticket, which can be procured from the Manager.
4. No credit will be given to any lodger, and no bed will be reserved which is not paid for by 7-30 p.m.
5. The Lodging-house is closed and all lights put out at 11-30 p.m. on week days, and at 10-30 p.m. on Sundays. The kitchen is closed every night at 9 p.m.
6. No lodger may remain in his bedroom after 8-30 a.m. on week days, or 9-30 a.m. on Sundays. A general "Call up" is given at 8-0 a.m. on week days, and 9-0 a.m. on Sundays. Those lodgers desirous of being called up at any hour during the night, should give their cubicle number and time of rising to the attendant on going up to the dormitories.
7. No smoking is allowed on the stairs, or in the dormitories, or dining-hall or kitchen.
8. Smokers and others must use the spittoons, and no one must spit upon the floors.

9. No intoxicating liquors may be brought into the House. No gambling, quarrelling, profane or indecent language will be allowed, nor anything calculated to disturb the peace and good order of the House, or the comfort of the inmates, and anyone violating this rule will be expelled, and his ticket forfeited.
10. All property belonging to lodgers must be considered as under their own care, but each lodger may have a separate locker off the dayroom, on depositing sixpence, which deposit will be returned on redelivery of the key. Note.—Attached to this is another key which will unlock the box in the correspondingly numbered cubicle. Bundles may be deposited with the Manager on payment of a small charge.
11. No lodger shall cut, write upon, or otherwise deface, spoil, or damage any of the walls, tables, forms, chairs, beds, or books of the House, or in any other manner injure the property thereof; or shall wilfully or wantonly create any nuisance, or make any dirt in any part of the establishment.
12. All preparation and cooking of food by the lodgers shall be in such rotation and according to such directions and conditions as shall from time to time be given or imposed by the Manager.
13. Lodgers may have their clothing washed by the attendants on payment of a small charge, or may wash their own clothing in the public laundry free of charge.
14. All complaints must be made direct to the Manager.

The following is a copy of the Salford Model Lodging House Account for the year ending March 31st, 1905.

Dwelling-house Improvement Fund Revenue Account, from  
March 31st, 1904, to March 31st, 1905 :—

## EXPENDITURE.

*Model Lodging-house Account.*

To Salary and Wages, &c.—	£	s.	d.	£	s.	d.
Salary of Manager .....	97	10	0			
Wages of Engineers, Porters, and Cleaners .....	823	13	10			
Uniform of Manager .....	13	16	6			
				935	0	4
To Rates, Taxes, and Insurance—						
Rates .....	174	13	8			
Property Tax.....	14	0	5			
House Duty .....	38	15	4			
Fire and Boiler Insurance .....	6	18	0			
				234	7	5
To Coal, Coke, Gas and Water—						
Coal .....	173	11	6			
Coke .....	2	10	5			
Gas .....	100	16	10			
Water .....	83	7	3			
				360	6	0
To General Repairs and Establishment Requisites—						
Plumbing Work .....	33	11	1			
Painters' Work.....	83	3	9			
Joiners' Work .....	21	4	1			
General Repairs .....	7	19	4			
Drainage Work .....	10	3	9			
Bedding .....	8	12	10			
Ironmongery and Utensils .....	29	13	8			
Soap, Soda, Brushes, &c. ....	83	6	6			
				277	15	0
Carried forward...	£1807	8	9			

	£	s.	d.	£	s.	d.
Brought forward ...	1807	8	9			
To Stationery and Miscellaneous Charges—						
Printing and Stationery .....	18	1	10			
Stamping Mortgages .....	5	19	0			
Newspapers .....	5	4	5			
Stamps .....	2	2	5			
Expenses of Concerts .....	1	7	5			
Sundries.....	4	4	9			
				36	19	10
To Interest and Redemption of Loans—						
Interest on Mortgage Loans .....	524	3	7			
Contribution to Sinking Fund .....	233	12	6			
				757	16	1
				£2,602	4	8

## INCOME.

*Model Lodging-house Account.*

	£	s.	d.	£	s.	d.
By Rents—						
Rents of 285 Cubicles .....	1913	6	9			
Do. Grocery Store.....	32	0	0			
Do. Cellar .....	25	0	0			
				1970	6	9
By Laundry Charges and Sundries—						
Laundry Charges .....	44	16	8			
Use of Baths .....	4	5	6			
Acknowledgment .....	0	5	0			
				49	7	2
Deficiency for the Year .....				582	10	9
				£2,602	4	8

*III.*

MANCHESTER.





### III.—MANCHESTER.

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The following is an account of the Manchester Corporation Lodging-house on the Harrison Street area :—

**Harrison Street Area.** —This site contains a superficial area of 3,375 square yards, on which is erected a lodging-house for men.

The building is three stories high, and has a frontage of 178 feet and a depth of  $118\frac{1}{2}$  feet. The principal (S.E.) elevation is to Harrison Street, which is 14 yards wide. On the S.W. side an open space of an average width of 14 yards extends the whole length, and the remaining sides of the building abut on open spaces and streets.

In the basement, lavatories, wash-house, foot baths, ordinary baths, lockers for bundles, and a boot cleaning room, are provided for the use of the lodgers. Barbers, tailors, and bootmaker's shops are also provided. The w.c.'s and urinals are isolated from the main block, and situated in an open space at the rear.

The administrative block is in the front of the building, and is entirely separated from the lodger's department. It contains boiler house, fumigating room, establishment laundry, ironing room, blanket store, day room, lavatory and w.c., kitchens, scullery, and larder.

Lifts for soiled and clean linen communicate from the basement with each floor.

The entrance is in Harrison Street, and leads to a wide hall and cross corridors, which gives access to the following rooms on the ground floor :—Smoke room, 60 feet by 21 feet, with a superficial area of 1,260 feet and cubic contents 16,695 feet ; dining room, 55 feet 9 inches by 39 feet, with a superficial area of 2,174 feet and cubic contents 31,395 feet ; reading room, 50

feet by 28 feet 4 inches, with a superficial area of 1,334 feet and cubic contents 13,340 feet. Adjoining the dining room are placed the the lodgers kitchen (fitted with four rows of "hot plates"), scullery, and shop, the latter having communication with the dining room and smoke room by means of serving windows.

The smoke, reading, and dining rooms are heated by open fireplaces, and lighted and ventilated by windows and lantern lights.

The Superintendent's apartments are situated on the right of the main entrance, and are approached by a private door from Harrison Street, and comprise office, sitting room, kitchen, scullery, pantry, two bedrooms, bath, lavatory, and w.c., and stairs leading to the administrative block in the basement. The office is in direct communication by means of speaking tubes with the attendants' cubicles on each floor, and in case of alarm the attendants have telephonic communication with each other on the different floors and with the Superintendent in his bedroom.

Dormitories, containing 49 cubicles, are situated on the ground floor, at the rear of the entrance hall, and on the south-east side.

The first and second floors are entirely set apart for sleeping accommodation, and contain dormitories 20 feet wide by 10 feet high, divided into sections by nine inch walls, with swing doors. Each floor contains 157 cubicles, five feet wide by seven feet three inches long, divided by varnished wood partitions six inches clear of the floor, and 18 inches from the ceiling. The space between the ceiling and the top of screens is filled in with open wire lattice work, this, while affording a through current of air along each dormitory gives additional security to the inmate. Each cubicle is provided with a window opening direct into the air.

At the end of the dormitories on each floor a w.c. and ventilating lobby are provided. A fire hydrant and "draw-off"

tap are also provided in suitable positions at the end of each dormitory.

The main staircase of stone is four feet wide, and is placed in a central position, and gives access to each floor.

Panic stairs, with exits from the dormitories on each floor, are provided at the end of each wing leading to the open spaces at the rear of the building.

The dormitories are heated by means of steam radiators placed at the end of each wing and against the main staircase in the centre of the building, and ventilated by air trunks taken through each floor and the roof to an exhaust fan worked by electricity.

The building is lighted by electricity throughout, and, in addition, gas is laid on to the panic and main staircases.

The elevations are faced with local "common" bricks, with projecting bands, arches, plinths, and oversailing courses in local red stock bricks. The walls of all the principal rooms in the basement, and the dining, reading, and smoke rooms, hall and principal corridors are faced with best quality ivory white-glazed bricks for two-thirds of their height.

All floors, except to the Superintendent's department, are fire-proof, constructed with steel joists and concrete, and with creosoted, splayed, wood fillets and boards on top. The exposed steel and iron work is encased with concrete.

The roofs are slated with best "seconds" velinhelli slates.

The drains are of glazed earthenware, laid with cement joints. Inspection chambers are provided at the junctions, and all drains are well ventilated and trapped near the boundary. A short length of drain which is of necessity under the building is of cast iron, bedded in and surrounded with concrete.

The lodging-house has accommodation for 363 men, and is within a penny tram ride of the city.



*IV.*

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LONDON.





## IV.—LONDON.

## The ROWTON HOUSES, Limited.

The Rowton Houses, Limited, have a capital of £350,000, and the Rowton Houses, which are Hotels for working-men, are situated as under :—

Rowton House, Bond Street, Vauxhall, London, S.W., 484 beds.

Rowton House, Calthorpe Street, King's Cross Road, London, E.C., 678 beds.

Rowton House, Newington Butts, S.E., 1015 beds.

Rowton House, 221, Hammersmith Road, London, W., 800 beds.

Rowton House, Fieldgate Street, London, E., 816 beds.

The charge for accommodation is the same at all the Houses, viz., 3s. 6d. for seven nights, payable in advance on Saturday, or 7d. per night for any other bookings.

The Tariff at these Houses is as follows :—

Soups, Various	...	...	...	...	...	...	...	Per basin, 1d. & 1½d.
Joints—Roast Beef, Roast Mutton, &c...	...	...	...	...	...	...	...	Per portion, 3d. & 4d.
Vegetables, in Season...	...	...	...	...	...	...	...	„ ... 1d.
Pudding and Pastry, Various	...	...	...	...	...	...	...	„ ... 1d.
Salads	...	...	...	...	...	...	...	... 1d. & 2d.
Tea...	...	...	...	...	...	...	...	... Per cup, ½d. & 1d.
Coffee	...	...	...	...	...	...	...	„ ½d. & 1d.
Cocoa	...	...	...	...	...	...	...	„ ½d. & 1d.
Bread and Butter...	...	...	...	...	...	...	...	... ½d. & 1d.
Jam...	...	...	...	...	...	...	...	... ½d. & 1d.
Marmalade	...	...	...	...	...	...	...	... ½d. & 1d.
Porridge...	...	...	...	...	...	...	...	... 1d.

&c., &c.

Tobacco and Cigars.

The Rules at the Rowton Houses are as follows : —

1. Admission to Bedrooms. The Staircase Gate is open every quarter of an hour after 7 p.m. A Ticket must be shown at the Gate.
2. Bedrooms must be vacated before 9 o'clock in the morning.
3. Smoking in Bedrooms is strictly prohibited.
4. The Public Rooms will be closed, and the gas turned off, at 11-30 p.m. on Sunday, and on other nights at 12-30 a.m.
5. The Dining Room will also be closed every morning, except Sunday, from 11 to 12 o'clock.
6. Card playing and gambling are strictly prohibited.
7. The Company will not be responsible for the loss of any property, unless such property has been left in the charge of the Superintendent, and a receipt obtained for the same.
8. The Company reserve the right to cancel Bed tickets at any time.
9. Lockers are provided for the use of residents. Sixpence is charged for the Key, and when the Key is returned, Five-pence will be refunded.

Residents at Rowton Houses have free use of following Rooms :—

Dining Room :— Where food can be purchased at exceptionally low prices. *See Tariff on previous page.* (Convenient Fires and Cooking Utensils, Crockery, Teapots, &c., are also provided, free of charge, for Residents who wish to prepare their own food).

Smoking Room :— With Newspapers, Chess, Draughts, &c., for use of Residents.

Reading and Writing Rooms :—With a plentiful supply of Books, Magazines, &c.

Hot or Cold Bath—Including Soap and Towels, 1d. Footbaths free.

Lockers, Parcels' Room, Laundry.

Barber's Shop, Shoemaker's Shop, Tailor's Shop.

The Chairman of the Directors of the Rowton Houses, Limited (Sir Richard Tarrant) informed the deputation that the houses were built and managed so economically, and yet with a maximum of comfort to the inmates, that the profit which they made was very satisfactory.

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**The NEWINGTON BUTTS HOUSE, London, is one of the Rowton Houses.**

The House has accommodation for 1015 Lodgers.

Dining-room has seating accommodation for 440 men. The floor space is 5,300 square feet.

Smoking Room has seating accommodation for 112 men. The floor space is 1,600 square feet.

Reading Room has seating accommodation for 170 men. The floor space is 2,550 square feet.

There are 41 water closets, being 1 for every 20 men.

The Lavatory has 80 basins, being 1 for every 10 men.

There are 805 cubicles.

**KING'S CROSS HOUSE, London, is one of the Rowton Houses.**

The House has accommodation for 678 Lodgers.

Dining-room has seating accommodation for 376 men. The floor space is 4,000 square feet.

Smoking Room has seating accommodation for 128 men. The floor space is 1,600 square feet.

Reading Room has seating accommodation for 112 men. The floor space is 1,528 square feet.

The Lavatory has 80 basins.

There are 677 cubicles.

**The HAMMERSMITH HOUSE, London, is one of the Rowton Houses.**

House has accommodation for 800 men.

The Dining-room has accommodation for 464 men. The floor space is 5,722 square feet.

Smoking Room has accommodation for 164 men. Floor space of Smoking Room is 2,428 square feet.

Reading Room has accommodation for 176 men. The floor space is 3,128 square feet.

Lavatories, Baths, are proportioned, as at Newington Butts.

There are 880 cubicles.

**The WHITECHAPEL HOUSE, London, is one of the Rowton Houses.**

House has accommodation for 816 Lodgers.

Dining-room has seating accommodation for 464 men. The floor space is 1,960 square feet.

Reading Room has seating accommodation for 144 men. The floor space is 2,430 square feet.

Smoking Room has seating accommodation for 112 men. The floor space is 2,430 square feet.

Lavatories, Baths, &c., are proportioned, as at the other houses.

There are 815 cubicles.

**The PARKER STREET LODGING-HOUSE, Drury Lane, is one of the houses owned by the London County Council.**

The House has accommodation for 326 Lodgers.

House contains General Room, Kitchen, Library, Shop, Lavatory.

Kitchen has a floor space of 2,016 square feet.

Floor space of Dormitories is 2,240 square feet each.

Dining-room has a floor space of 1,504 square feet.

Day Room has a floor space of 2,240 square feet.

Covered Yard has a floor space of 1,020 square feet.

**CARRINGTON HOUSE, Deptford, is one of the houses owned by the London County Council.**

Number of Cubicles, 802.

Number of Lavatories, 80 basins.

Number of water closets, 40 and 10 urinals on ground floor, 20 water closets on cubicle floors.

Number of Baths, four and two shower.

Number of Footbaths, nine.

Superficial area of Dining-room, 6,067 square feet.

Seating accommodation in Dining-room, 440 men.

Superficial area of Reading Room, 3,057 square feet.

Seating accommodation in Reading Room, 176 men.

Superficial area of Smoke-room, 2,031 square feet.

Seating accommodation in Smoke-room, 104 men.

Cost of Building, exclusive of land, £50,000 (approx.).

Any other remarks.—804 lockers, Barber's, Tailor's, and Bootmaker's Shops, two Dressing-rooms and Parcels' Room and Lodgers' Laundry provided





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BIRMINGHAM.



## V.—BIRMINGHAM.

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The most recently erected house on the "Rowton House" system has been built at Birmingham, and it will be of interest if a description is given of the same.

The Rowton House, Highgate Park, the foundation stone of which was laid by Her Royal Highness Princess Christian of Schleswig-Holstein, on the 23rd June, 1903, is the first of the proposed "Poor Men's Hotels," known as "Rowton Houses," intended to be erected in Birmingham by the Birmingham Rowton Houses, Limited, from the designs and under the direct supervision of Mr. Harry B. Measures, F.R.I.B.A., of Westminster, the architect of the Rowton Houses in London.

The building is situate upon an exceptionally fine site, comprising about an acre of freehold land, immediately overlooking Highgate Park, within five minutes walk of the Smithfield, municipal, and other markets, and in the midst of that part of Birmingham mostly occupied by the class to whom it is believed the accommodation provided will supply a long felt need.

The site is in the form of a parallelogram, the entrance frontage to Alcester Street is 161 feet, the return frontage to Mosley Street is 240 feet, and the Park return frontage is 243 feet, overlooking on the south side along its entire length Highgate Park.

It has been possible to plan the buildings on such a site with wide fore-courts on each frontage, and in addition to form a large inner court-yard, 90 feet wide, open at one end, thereby assuring an abundance of light and air to the building on every floor; the upper or cubicle floors are planed in this form E, with staircases at the three extremities; the inner courtyard is open to the East for access of sunlight to all cubicles and rooms.

In consequence of the large area of the site, it has been possible to place all the day rooms used by lodgers above the road level in Alcester Street, and on one level (with the exception of the Reading, Writing, and Smoking Rooms, which are on the first floor level), and so secure a pleasant outlook over the whole of Highgate Park.

## THE BUILDING.

The elevations are of Ruabon red facing bricks, with dressings of buff terra-cotta, from Mr. J. C. Edwards, of Ruabon, and in addition light red Fletton bricks are used, as a relief to the dark red Ruabon bricks. The whole of the interior walling, excepting where glazed bricks are used, is of a specially hard brick, made by Messrs. Wood and Ivery, of West Bromwich, and the glazed brickwork is supplied by Messrs. Shaw, of Blackburn.

The roofs to front elevations are of green slates, nailed direct upon coke breeze concrete slabs, carried upon steel construction; all other roofs are of flat concrete and steel construction, covered with asphalte.

The ground floor is covered with a thick bed of concrete, upon which the wooden floors are of solid oak blocks, and the other floors are cement and granite chippings.

The floors are fireproof throughout, formed of concrete and steel, and the staircases and landings of Portland cement concrete.

To avoid a cavity between the surface of concrete and flooring, the floor-boards are nailed directly upon the concrete to cubicle floors.

Especial care has been exercised in the planning of all the sanitary work, both in the portion underground, and in the plumber's work.

Access is immediately obtainable to any portion of the underground work by the placing of inspection manholes at every change in direction of pipes, and in positions that enable all junctions to be easily accessible.

A system of lighting has been adopted, giving the official, on each floor of cucibles, control of the gas upon that floor, the various rooms on basement and ground floors are controlled separately, and, in addition, the Superintendent has complete control in the meter room over all the various sections. Meters are placed on each section, so that any excessive use of the lighting may be traced.

### ADMINISTRATION.

The building is divided, for administrative purposes, into five sections :—

1. Superintendent's apartments, with separate accommodation for Office Clerk.
2. Bed makers.
3. Catering section, which includes sleeping accommodation for females employed in shop, kitchen, and scullery.
4. Lodgers' day rooms.
5. Lodgers' Cubicles

The sections 1, 2 and 3, are planned so that there is no communication whatsoever between them, and the lodgers' sections 3 and 4, except by passing in view of the Clerk's office at the entrance on ground floor.

### SECTION No. 1.

**SUPERINTENDENT'S RESIDENCE.**—This comprises a self-contained residence on ground floor, and has the following accommodation :—two sitting rooms, one bedroom, bathroom, w.c., &c.

THE OFFICE AND CLERK'S RESIDENCE :—The office which is immediately to the right inside entrance doors, is occupied by a clerk, who is in charge of the turnstiles, books, &c. In addition to the usual fittings, which are in polished teak, a safe is provided for books, and for any valuables a lodger may desire to leave in charge

The Clerk's Bed-Sitting Room adjoins this office, and is approached from a private lobby, with a lavatory and w.c.

## SECTION No. 2.

BED MAKERS.—Women will be employed as bed makers ; they are day servants, and do not sleep in the building. The section to be used by them is approached by the gate at foot of front staircase next entrance, with a separate staircase giving access to their rooms in basement, and to the cubicle floor staircase. This staircase is in full view of the office, a provision to enable the bedmakers to reach the cubicle floors without passing through any portion of the day rooms, or corridors, used by the lodgers. The whole of the cubicle floors are closed against lodgers after a specified time in the morning by locking the gates on the three lodgers' staircases. The walls of the staircases are in ivory-coloured glazed brickwork.

SITTING ROOM FOR BED MAKERS.—This room is in the basement, and is provided as a dining room, fitted with range. A cloak room, lavatory, and w.c., are provided adjoining this room.

SOILED LINEN ROOM—In this section is a room, built in glazed brickwork, for the reception of soiled bedding, &c., and is fitted with a lift built in glazed brickwork communicating to all cubicle floors. Speaking tubes to all floors are provided.

LINEN AND BLANKET ROOMS.—A room fitted up with open racks from floor to ceiling, for the storage of linen, blankets, quilts, &c., is provided, having provision for the sorting and checking of these articles when received from laundry, and are



sent up by a clean bedding lift to cubicle floors for bed makers. A hot-water cylinder is fixed in this room to air bedding.

STORE ROOMS —Two rooms are provided for spare bedsteads, &c., for cubicle floors.

### SECTION No. 3.

#### CATERING DEPARTMENT.

The portion of ground floor approached from Superintendents' Section is occupied by this department, with sitting rooms and six bedrooms, for the female staff, adjoining kitchen along the frontage to Highgate Park, and is entirely cut off from the lodgers' accommodation.

Complete arrangements will be made for the preparation and sale of cooked foods, and also uncooked foods for those lodgers who may prefer to cook their own.

The catering is proposed to be carried out by the Company's staff, supervised by the Superintendent.

The accommodation is as follows :—

KITCHEN.—30ft. by 24ft. Built in ivory-glazed brickwork from floor to ceiling ; floor solid wood block, with quarry tiled margin and hearths ; fitted up with ranges, gas and steam cooking apparatus, dressers, cupboards, &c.

SCULLERY.—32ft. by 14ft. Built in ivory-glazed brickwork from floor to ceiling ; fitted up with large teak sinks, with teak draining boards, plate racks, and dresser.

SERVICE.—A service room adjoins kitchen and scullery, fitted with double turntable service into lodgers' scullery.

LARDERS.—12ft. by 10ft. each. Built in ivory-glazed brickwork from floor to ceiling ; fitted up with slate and wood shelving, and rails and hooks, for hanging joints, &c., are provided for kitchen and shop respectively.

**SERVICE CORRIDORS.**—Service corridors are formed between shop, kitchen, scullery, and larder. All walls are in ivory-glazed brickwork.

**STORES.**—A large storeroom, 27ft. by 12ft., fitted up with shelving, &c., is provided for storage of groceries, and other goods for catering purposes. Another storeroom in corridor is fitted up for, and stocked with, spare cookery, &c.

**KITCHEN SERVANTS.**—A corridor, built in ivory-glazed brickwork, gives access to sitting-rooms and six bedrooms, bath room, lavatory, and w.c., for the use of female staff employed in the catering department. Cellarage for coals is provided in this section.

**ENTRANCES.**—A tradesmen's entrance immediately adjoins Superintendent's Section, in view of his windows, as also a separate entrance for heavy goods.

## SECTION No. 4.

### LODGERS' DAY ROOMS, &c.

#### GROUND FLOOR.

**ENTRANCE.**—The entrance and corridors, opening out from same to the various rooms, and the three staircases are built in glazed brickwork from floor to ceiling, the dado formed in cream and chocolate glazed bricks, and above, ivory-glazed bricks, including the moulded cornice. The main entrance and screen doors in polished teak. Floor is cement and granite chippings. Oak seats are provided in positions, out of the line of traffic in corridors. Water is laid on for drinking purposes in corridor.

**DINING ROOM.** The dining room is on the right side in main corridor, with eight large ventilating top lights into the central courtyard of building, in addition to large windows. The floor space provided in this room is 6,748 feet; seating is provided at tables for 448 men, and, in addition, a number of extra seats and wooden easy chairs are provided. The walls are built with

a high dado of cream and chocolate-tinted glazed brickwork, with plastering above tinted to a shade of terra-cotta. Pictures are hung in frames around room. The tables and seats are in teak on cast iron standards. At the end of this room two recesses are formed, 19 feet by 12 feet each, with arched openings into same, fitted up with large cooking ranges, with ovens, hot plates, and grills, as a provision for lodgers who may desire to prepare their own food; large boilers at the back of these provide a supply of boiling water for lodgers, for cooking, tea, &c. The recesses have large top ventilating lights, and are built entirely in glazed brickwork.

**LODGERS' SCULLERY AND CROCKERY.**—This is placed adjoining the dining room, and is a provision to enable lodgers, who wish to prepare their own food for cooking, to do so out of the dining room. It is built in glazed brickwork from floor to ceiling, and fitted up with ten white enamelled fire-clay sinks with hot and cold water supply to each, and teak draining boards; large sanitary pails are provided for potato peelings, tea leaves, etc.

In addition, it is fitted up with stout wood shelving for crockery, cooking utensils, teapots, etc., placed here for the free use of lodgers; these are collected by the Company's officials from dining room after use, and returned by turntable service, formed in this room, to catering scullery.

**SHOP.**—24 feet by 18 feet 6 inches. This is planned with teak shop front, opening into, and giving a view of dining room. It is lined with glazed tiles from floor to ceiling, fitted up with cupboards, drawers, shelving, sink, gas stove, hot plates and boiling water apparatus, and stocked with goods to meet the varied requirements of lodgers. Tobacco license will probably be held.

**LOCKER ROOMS.**—A large space, on the left of main corridor adjoining dining-room, has been divided up into thirteen corridors, well lighted and ventilated, fitted with lockers. The

lockers, over 800 in number, are uniform in size, 3 feet high, by 1 foot 6 inches square inside, fitted with shelf and lock. Each locker is ventilated and numbered. They are arranged in tiers, three in height. Provision is made in them for sticks or umbrellas. Spaces are fitted with benches for brushing clothes, &c.

**LAVATORIES.**—The lavatory is between the two end staircases entered from main corridor, it is 36 feet wide by 44 feet long, and has a French grey and ivory dado with ivory walls, and moulded cornices above same—all in glazed brickwork. There are 80 lavatory basins, white enamelled fire-clay, fitted up with polished slate top, brass taps for hot and cold water supply to each basin, towel, and hat rails. The waste pipes from each lavatory are discharged over an open white enamelled earthenware channel in floor, and the floor is laid with falls to this channel throughout, for cleansing and speedy drying.

The hot water pipes are exposed, that the radiated heat may be utilised for warming lavatory.

Towel rollers are fitted up and furnished.

**BATH ROOMS, &c.**—These, eleven in number, are placed on each side of lavatory. They are fitted up with ivory-glazed fireclay bath, with teak bath top, and brass taps for hot and cold water supply. The walls and front of bath are in ivory-glazed brickwork.

**DRESSING ROOMS.**—Two rooms are provided, approached from lavatory, for use as dressing rooms, to enable lodgers to change their garments during the hours that access is not permitted to cubicles.

**FEET WASHING.**—A room, approached from lavatory, is fitted up for this purpose with ten deep feet-washing troughs, with teak boards between each, and hot and cold supply carried to each trough. Walls glazed brickwork.



**LODGERS' WASH-HOUSE.**—This room, at the end of main corridor, is for the use of lodgers who may wish to wash their own garments, and is fitted with eight washing troughs in ivory glazed fireclay, draining boards of teak, hot and cold water supply to each, and a large heating stove surrounded by a galvanized iron framework, for the speedy drying of garments. Walls in glazed brickwork.

**BARBER'S SHOP.**—A room is provided, fitted up with hot and cold water, and with usual fittings.

**SHOE MAKER AND TAILOR.**—Two rooms, adjoining locker corridors are provided, and fitted up as workshops for these.

**PORTER'S DAY ROOM.**—A room built in glazed brickwork from floor to ceiling, fitted with a cooking range, table, lockers, and other fittings, is provided for the officials, who are employed in sections 4 and 5.

**PARCEL ROOM.**—A room immediately opposite the office at entrance, is fitted up for the storage of tool chests and other bulky articles, that the lodgers may desire to have stored.

**W.C.'S AND URINALS.**—These are placed outside the buildings in courtyard at the south-east of the building, and are cut off from same by means of cross-ventilated lobbies. The work throughout is constructed in white glazed brickwork.

There are 40 w.c.'s (in addition to those on cubicle floors) placed in one building, top lighted from end to end, and top louvre ventilated. Each w.c. is fitted with water waste preventor, a Doulton's pan and trap bedded in solid concrete, up to the underside of seat ; the riser in glazed brickwork, and the seat in teak.

There are 12 urinals in similar, and adjoining buildings. The urinal backs, semi-circular, white glazed fireclay, with bull-nose white glazed screen piers in front, and above same, fitted with complete automatic flushing apparatus.

FUMIGATING AND DRYING ROOMS.—A fumigating room is provided outside the building, and a drying room is formed in a position where waste heat from furnaces is utilised.

An approach for dustman, without entering the building, is provided, and all dust is taken to sanitary receptacles outside building.

### FIRST FLOOR.

SMOKING ROOM.—This room is at eastern end of main corridor on first floor, with windows overlooking Highgate Park. The floor space is 1,582 feet, the tables and seats—teak, as in dining room, and, as fitted, seat 96 lodgers; in addition, a number of wooden easy chairs will be provided around the two fireplaces, and in large bay. Glazed faïence mantels and over-mantels fitted for large open fires. The walls are built with a high dado of cream and chocolate tinted glazed brickwork, with plastering above tinted to a shade of terra-cotta. Pictures are hung in frames around the room.

READING ROOM.—This room is placed on first floor, with staircase approach from the entrance corridor, and has similar bay to that in smoking room, and large angle bay; the floor area is 2,503 feet. The walls have glazed brick dado, with plastering to tint, as in smoking room. The seats, and tables in teak, provide for 160 men, in addition to a number of wooden easy chairs around the three glazed faïence fireplaces, and in other parts of the room. Two bookcases, in polished teak, fitted up with books and cupboards for papers, etc., are provided. Books will be lent to lodgers on application to Superintendent. Pictures furnish walls as in other rooms on this floor. A corridor gives additional access between smoking and reading rooms.

WRITING ROOM.—This room is adjoining the reading room, and approached from the same staircase, with windows overlooking Alcester Street; it is built and fitted up in a similar manner to the reading room.



## SECTION No. 5.

## LODGERS' CUBICLES.

The cubicles are approached by three fireproof staircases, built in ivory-glazed brickwork, two situated at the eastern boundry of the site, and one opposite entrance, and adjoining office, all at the extreme ends of cubicle corridors. The disposition of the staircases render it an impossibility for the lodgers to be trapped by fire in the event of an outbreak, as the cubicle corridors run from staircase to staircase, thereby leaving open a way for retreat in the event of access to one staircase being blocked. In addition, each floor is divided by divisional walls into eleven sections, which would check, if not stop, the progress of a fire horizontally. The sectioning of floors also enables isolation, and efficient fumigation in the event of a case of contagious disease.

There are five floors of cubicles, with a total sleeping accommodation for 819 men. Each bed in a separate cubicle, and every cubicle in the building has a window under the control of the occupant.

The portion of the cubicle partition next corridor is 6 feet 6 inches high, while the divisions dividing the cubicles are 7 feet 6 inches, leaving a space up to ceiling level, free of partitions, for ventilation.

The bedsteads are iron, fitted with wire-woven mattresses, a horse-hair mattress, and bolster, blankets, sheets and quilts, and each cubicle provided with a chair, shelf, clothes hooks and utensil.

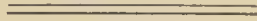
Two w.c.'s and a sink, with cold water drinking supply, are placed on each of the eastern staircase landings, outside entrance to cubicles, thus providing w.c.'s and sinks on each floor for night use.

Fire mains and hose pipes are provided at five points on each floor, in addition to those on day room floors.

Officials sleep on each floor of the building.

**BED MAKERS' LIFT ROOM.**—A room, with an external window, has been provided on every floor for reception of clean linen, &c., from lift, which is formed therein, and a similar room for soiled linen, with lift, &c.

The charge for a Cubicle, with the use of day rooms, lavatories, and other conveniences, will be on a basis of 6d. per night.



The following Table shows the return of cost, &c., of various Municipal Common Lodging-houses :—

TOWN.	Population.	No. of Beds.	Charge per night.	Cost of Site.	Cost of Building and Furnishing.	Cost of Building and Furnishing per bed provided	PROFIT OR LOSS.
ABERDEEN .....	154,000	250	4d.	£ 3,400	£ 15,000	£60 per bed	Loss for financial year 1901-2, £475. Loss is yearly diminishing.
BELFAST .....	350,000	150	6d.	Corporation Property	8,000	£53 "	Small Profit, £50.
LEITH .....	80,000	200	5d.	£25 a year	8,050	£40 "	Profit about £30 a year.
LONDON (PARKER STREET) ..	.....	326	6d.	3,750	22,136	£68 "	Profit.
SALFORD .....	220,000	285	6d.	1,150	15,330	£53 "	Loss about £600 per year.
MANCHESTER ...	534,000	363	6d.	3,535	22,143	£61 "	Loss about £1,700 a year. This is chiefly attributed to the fact that the Lodging House is not conveniently situated.
PETERHEAD .....	11,764	55 for men 20 " women	4d.	111	1,440	£19 "	Loss about £50 a year.
SOUTHAMPTON .....	105,000	186	...	4,010	15,615	£74 "	Profit.
DARWEN .....	39,000	130	5d.	Site previously owned by Corporation. Cost not stated.	7,917	£61 "	Loss of £500 a year.
CROYDON .....	134,000	66 for men 34 " women	...	Total Cost	7,435	.....	The men's branch pays, but there is a loss in the women's branch.
HUDDERSFIELD .....	95,000	175	134 at 3d. 41 at 5d.	Total Cost 6,492	old buildings altered and converted into Common Lodging Houses.		Profit varied from £12 to £72 per annum
LANCASTER .....	40,000	97	4d.	Not stated. Existing buildings altered and converted into Common Lodging Houses			Loss of £30 per annum.
PAISLEY .....	80,000	223	4d. & 4½d.	A Gift to the Town, Therefore no charge for interest or loan.			Profit of £150 per annum.
GLASGOW .....	571,000	2,430	3d. to 6d. 3d. & 3½d. 4½d. & 6d.	Total Cost £108,000	£39 per bed		Each house makes a profit. The total profit from the seven houses for the year 1901-2 being £4,881.

## CONCLUSION.

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The advantages of a well-regulated and well-built lodging-house have been stated previously to the Health Committee, and are briefly :—

- (1.) That the house, being built on sound principles, would be much healthier than the present ones.
- (2.) That the house would be under strict supervision with regard to cleanliness and sanitary conditions generally, and that the notification and isolation of infectious disease could be carried out much more effectually than in a private lodging-house.
- (3.) That its erection would cause competition in other houses, which, in order to retain good paying lodgers would have to improve their accommodation.
- (4.) That it would enable decent working-men, without families, to live in comfort, and thus would withdraw that most obnoxious element in cottage houses—"the lodger."
- (5.) That it would have a good moral effect by providing for each man what is practically a "room."

The letting of shops beneath the proposed house would probably be a source of income.

The Estimated Cost of Building and Furnishing a Municipal Lodging-house on the Penny Street site is £16,000.

It will now be necessary to refer to the accommodation in the Common Lodging-houses of Blackburn at the present time.

The following is a list of Registered Common Lodging-houses in the Borough of Blackburn :—

- |    |                         |                |              |
|----|-------------------------|----------------|--------------|
| 1. | 19, Larkhill Street,    | registered for | 260 lodgers. |
| 2. | 66, Moor Street         | "              | 93 "         |
| 3. | 86 to 92, Chapel Street | "              | 35 "         |

4.	56, Chapel Street, registered for 35 lodgers.		
5.	104, Mary Ann Street	„	37 „
6.	54 and 56, Syke Street	„	37 „
7.	28 and 30, Penny Street	„	33 „
8.	59, Water Street	„	25 „
9.	30 and 32, Leyland Street	„	20 „
10.	9, Cannon Street	„	20 „
11.	13, Grimshaw Park	„	18 „
12.	24, Bradshaw Street	„	18 „
13.	33, Larkhill	„	16 „
14.	28, Blakey Moor	„	15 „
15.	83, Moor Street	„	11 „
16.	26, Blakey Moor	„	7 „
17.	6 and 8, Mount Pleasant	„	63 „
18.	7, Albion Yard	„	16 „
19.	74 and 76, Chapel Street	„	36 „

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Total No. of Lodgers ..... 797

The following houses will require very great structural alterations before the Medical Officer of Health can recommend their re-registration in May, 1906 :—

66, Moor Street, accommodation for 93 lodgers.

86 to 92, Chapel Street	„	35 „
54, 56, Syke Street	„	37 „
7, Albion Yard	„	16 „

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No. of Lodgers..... 181

The following houses are unsuitable for the purpose of Common Lodging-houses : —

9, Cannon Street, accommodation for 20 lodgers.

28, Blakey Moor                   ,,                   15       ,,

26                „                „                7                „

No. of Lodgers..... 42

The following houses have recently applied for registration, and the requests will probably be granted if certain alterations are carried out :—

1. 8, Cowell Street, accommodation for 13 lodgers.

2. 17, John Street                   ,,                 22     ,,

3. 45 and 47, Nab Lane                   ,,                   19                   ,,

4. 19, Larkhill Street                   ,,         48         ,,

No. of Lodgers..... 102

The accommodation for males and females in the Common Lodging Houses of Blackburn in the year 1901, was 909, but the recent demolition of property on the Blakey Moor site has displaced a considerable number of lodgers. The present accommodation is for 797 lodgers, including 81 who can be housed in the recently registered buildings at 24, Bradshaw Street, and 6 and 8, Mount Pleasant.

This therefore leaves a deficiency in accommodation for 112 lodgers.

But if certain alterations are carried out to the satisfaction of the Medical Officer of Health, at houses in Cowell Street, John Street, Nab Lane, and Larkhill Street, there will be further accommodation for 102 lodgers leaving an amended deficiency of 10 beds.



On the other hand, if the three houses in Cannon Street and Blakey Moor were closed or demolished there would be a further deficiency of 42 beds.

Moreover if satisfactory alterations were not carried out at the houses in Moor Street, Chapel Street, Syke Street, and Albion Yard, and they were closed, the deficiency would be further increased by 181 beds.

Therefore the gross deficiency might be 233 beds.

This number of course refers to males and females. Also this deficiency would be decreased by other successful applications from private owners for certain houses to be registered as common lodging houses.

At the same time it should be stated that there are probably numbers of male lodgers in private houses, and respectable working-men who can only get home at the week ends and who are compelled to live in common lodging houses, who would use a municipal institution.

Such a building should be called an "Artisans' Dwelling," or by some similar name in preference to the title "Common Lodging House."

In certain of the present Common Lodging Houses which are adapted buildings the following disadvantages are apt to occur : deficiency in sitting-room accommodation ; deficiency in facilities for cleanliness of the house, the lodger, or of his clothes ; deficiency in arrangements for cooking and eating meals, etc.

As to the general policy which encourages the provision of Municipal Common Lodging Houses it must be admitted that they have tended to prevent overcrowding in smaller houses, and to a great extent they have caused the inmates to be placed under Municipal control.

It should, however, be mentioned that there appears to be in the men who frequent them an indisposition to return to home life. In itself this is a misfortune, but whether or not it is sufficiently great to outweigh the advantages is a matter for various opinions.

It is hoped that the foregoing particulars will be sufficient to enable the Committee to decide as to the desirability or otherwise of erecting a Municipal Artisans' Dwelling in Blackburn.

